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IMPACT ON THE U.S. ECONOMY OF IMBALANCED AND UNFAIR TRADE RELATIONS—THE CASE OF JAPAN

HEARING

BEFORE THE

SUBCOMMITTEE ON ECONOMIC GOALS AND
INTERGOVERNMENTAL POLICY

OF THE

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CONGRESS OF THE UNITED STATES

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IMPACT OF THE U.S. ECONOMY OF IMBALANCED AND UNFAIR TRADE RELATIONS—THE CASE OF JAPAN

THURSDAY, AUGUST 22, 1985

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ECONOMIC GOALS
AND INTERGOVERNMENTAL POLICY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room A, Legislative Office Building, Empire State Plaza, Albany, NY, Hon. Alfonse M. D'Amato (member of the subcommittee) presiding.

Present: Senator D'Amato.

OPENING STATEMENT OF SENATOR D'AMATO, PRESIDING

Senator D'AMATO. Good morning, this is a hearing by the Joint Economic Committee, a hearing on the United States-Japanese trade relations. I want to welcome you here today to discuss United States-Japanese trade relations. This morning we are going to focus on the Japanese import trade penetration into the United States market. The first panelist will be the Honorable Alfred E. Eckes, a Commissioner of the U.S. International Trade Commission from Washington. Commissioner, we are pleased and delighted that you are with us.

We will be delighted to hear you make your statement in full or summarize your statement, because this is a most important issue and we are deeply appreciative of your being with us.

Free trade and fair trade, these are words used frequently these days, but instead of describing the amiable trade relationship that should exist between nations, these words symbolize what is missing from international trade. Many of our trading partners have forgotten the meaning of these concepts which are no longer the building blocks of their trade policy.

It seems to me the United States stands alone in giving significant meaning to free and fair trade. We only have to examine our trade deficit in 1984 of more than $123 billion to realize that some of our trading partners are taking unfair advantage of the free trade policies that the United States has practiced for so long.

One nation that has abused the 200-year-old concept of free and fair trade is Japan. In 1984, Japan was responsible for almost one-third of the United States trade deficit, an incredible $37 billion.

One of America's most renowned writers and historians, Theodore White, authored an article in the New York Times. I don't know how many of you saw it. Let me quote what he said:

> Today, 40 years after World War II, the Japanese are on the move again in one of history's most brilliant commercial offensives, as they go about dismantling American industry. Whether they still are only smart, or have finally learned to be wiser than we, will be tested in the next 10 years. Then we will know who has finally won the war 50 years earlier.

Few nations derive greater benefits from worldwide trade relationships than Japan, but up to now the rest of the world beginning with the United States, has not been awarded an equal opportunity in the highly protected Japanese marketplace. In a major break with free trade doctrine, Tokyo's pre-World War II leadership has attempted to turn the world marketplace into an import sponge for Japanese goods, the United States being the biggest dumping ground. Last year, the United States absorbed approximately 36 percent of Japan's total exports to the world. These products range from nails, watches, cameras, automobiles, and sophisticated high technology goods.

The Japanese have utilized unfair methods in order to dominate specific industries. The use of cartels, low-interest or interest-free loans and other government assistance programs have helped these targeted industries grow and become extremely competitive in the world marketplace. The dumping of their products into our market has permitted them not only to gain the competitive edge, but to force many U.S. manufacturers out of business.

Now, American businessmen do not mind competition, but they should not be forced to compete against the treasury of Japan and its use of unfair trade practices.

The result: Huge export surpluses for Japan at the expense of every other nation. In 1984, for example, Japan ran a staggering $125 billion surplus with the rest of the world in manufactured goods alone; while the United States absorbed a deficit of over $80 billion in those items over the same period.

We cannot allow the same situation to continue. The United States No. 1 priority must be the development of a new economic partnership with Japan, a partnership that is based on reciprocity. If the Japanese refuse or fail to grasp our hand in this initiative, then this is one Senator who will be prepared to undertake a course of action designed to redress the intolerable, bilateral trade imbalance between the United States and Japan.

With one-third of last year's United States-trade deficit attributed to Japan, there is no way for us to ignore the Japanese challenge. Even as I speak, our top trade officials are meeting with the Japanese in Hawaii in what will probably be another vain attempt to persuade them to abandon their destructive export campaign against us.

The time has come for the Japanese to realize that this outcry from the United States is not going to stop without any meaningful concessions on their part. The time has come for the Japanese to abandon their anticompetitive trade practices. Failing that, I believe that we'll have no choice but to severely restrict the Japanese from access to our marketplace. This would be disastrous for

Japan, and I don't believe that it would be in the best interests of this Nation.

Commissioner, thank you for being here, thank you for your patience.

STATEMENT OF HON. ALFRED E. ECKES, COMMISSIONER, U.S. INTERNATIONAL TRADE COMMISSION

Mr. Eckes. Thank you very much, Senator. It's a great pleasure for me to be in Albany and testify before this subcommittee this morning. I commend you in particular for holding this field hearing to promote a broader understanding of our trade problems and a discussion of possible remedies. As a U.S. International Trade Commissioner, I see not only the statistics tracing the tidal wave of imports now engulfing this country, but also the victims of that wave who come to our Commission seeking relief.

Mr. Chairman, in my judgment the trade deficit is to the 1980's what the energy crisis was to the 1970's: The dominant issue of the decade.

You have my rather lengthy prepared statement; and in the interest of brevity, I propose only to summarize briefly some of the conclusions, taking hopefully less than 10 minutes of your time, and then I'd be delighted to respond to whatever questions you might have.

Senator D'Amato. Commissioner, I think this issue is so important that I want you to use all the time necessary that you feel should be made. I would like you to focus in on what you see as the problems, where you have seen the abuses, in what manner, what the effect has been, and maybe more importantly, what can and should we be doing?

This may or may not be part of your charge as a Commissioner, but as someone who has been dealing in this area, I feel you are uniquely suited to be able to make those kinds of recommendations.

What should we pursue to deal with these problems that you are going to outline?

Mr. Eckes. I'll be delighted to respond as best I can, Senator, of course offering my personal views, since, in many ways, I'm not a policymaker but more a judge and a factfinder. Let me begin with a few overall comments about our trade situation and our trade situation vis-a-vis Japan.

First, because of the strong dollar and our loss of competitiveness in world markets, as you pointed out we face a widening trade deficit this year, perhaps $150 billion, up from roughly $123 billion last year.

As the 1984 figures indicate, we are running huge deficits with all of our major trading partners: Canada, which is the principal one, Japan our second largest trading partner, Mexico, the European Community, and also the newly emerging industrial countries like Brazil, Taiwan, Hong Kong, and Korea.

Mr. Chairman, the trade deficits we are running are unprecedented in world economic history, and here I speak, perhaps, with the voice of one who has studied history and been a professor of history. At the rate we are going, this country could face the difficult task of meeting payments on a foreign indebtedness exceeding $1 trillion by approximately 1990.

Like Brazil, Argentina, and other debtor nations, we may be forced by the international bankers, by foreign bankers, to take drastic action to reduce our imports if we cannot boost our exports to pay our way.

Now, my second point would be that with Japan and the little Japans of Asia, and here I mean Korea, Taiwan, and Hong Kong, in particular, a skewed pattern of trade has emerged.

Some might say the whole world has turned upside down in recent years. We used to think of ourselves as an industrial country that exported manufactured goods and imported petroleum and raw materials. Certainly, that's been our pattern of trade since about 1990. But today, with reference to Asia, we export raw materials and agricultural products, and they supply us with manufactured goods.

Last year our five leading exports to Japan were—listen to this: Yellow corn, soybeans, bituminous coal, wheat, and cotton; and their principal exports to us were motor vehicles, office machines, consumer electronic products, and semiconductors.

Mr. Chairman, that same pattern has emerged with reference to Korea and to Taiwan. And with Taiwan we have an even larger per capita deficit than we do with Japan.

The third point I would like to make is that our trade is unbalanced in another way. These neomerchantilist nations of Asia appear determined to gain competitive advantage through generating hugh trade surpluses, and they are less interested in contributing to the balanced growth of our international trading system. Their governments guide industrial development. Their governments foster the growth of targeted industries. And their governments restrict their own imports to provide protection during that period of growth.

Let me make some specific comments now about Japan, because that's the focus of our consideration today.

Japan's supporters say United States industry has shown little skill in approaching the Japanese market. Poor salesmanship, as well as an overvalued dollar, really underlies our trade deficit with Japan.

Well, in fairness there's some truth to these comments. But the trade statistics show that no country sells Japan substantial quantities of manufactured goods. In fact, Japan has the lowest ratio of imports to consumption of manufactured goods of any major trading country. Between 1979 and 1984, manufactured goods accounted for 20 percent of Japan's total imports but over 90 percent of its exports.

We might well ask at this point: How did Japan, a densely populated nation, with few natural resources, rise from the devastation of World War II to become the trading giant of today? The OPEC of trade, some call Japan.

There are a number of explanations. Certainly the Japanese have a high, very high rate of domestic savings; they have a high work ethic among their people, they are concerned about quality. And in some of these areas we have much, I think, and have learned much, from the Japanese. But one important factor, as you have noted, Mr. Chairman, is aggressive Government targeting, controlling the import of goods, services, capital, and technology, and directing resources to industries that hold the promise for future growth.

In recent years, Japanese Government targeting has shifted to high technology industries, such as computers and robotics.

Now, let me address what can be done about this growing imbalance. It seems to me a successful strategy involves both what we might call trade-specific measures and sound macroeconomic policies.

First, we can obviously apply existing unfair trade practice laws to offer some relief to domestic industries facing unfair competition from subsidized or dumped imports.

I might note in passing that the Commission administers the unfair trade laws dealing with subsidies and dumping, and over the years we have found very few occasions when the Japanese were subject to countervailing duties for subsidies. Most of the subsidies they seem to provide to their industries are so general as not to be countervailable, or come relatively early and are not countervailable when the imports actually enter the country under existing laws.

Under the dumping laws, however, we have found more instances of dumping involving Japanese products than the products from any other country.

Going back to 1970, these dumping orders—there are perhaps 35 or more in place at the present time—cover products ranging from television receivers, to titanium sponge, and radio pagers. And I might add, parenthetically, that there are several other major subjects under current investigation by our administrative authorities in Washington.

Several weeks ago, the Commission made a preliminary determination that there was reason to believe that the domestic industry producing semiconductors was being injured by dumped—by allegedly dumped imports from Japan.

That case—a major one because, as you know, semiconductors are the building blocks for the technological society of tommorrow—is now before the Department of Commerce and, if they find in fact that there was dumping, the whole case will come back to the Commission for a final determination later this year or early in 1986.

A second way that we can approach these would be to continue our efforts to gain reciprocal access to the Japanese market using, if necessary, new retaliatory authority the President has been given under section 301 of the Trade Act.

As you know, in 1984, Congress made substantial changes to our basic trade laws and one was to heighten the President's authority for retaliating against certain types of unfair trade practices, not only with reference to our trade but to service and investments as well.

It seems to me the problem, however, involves more than unfair trade, and I'm, quite frankly, not altogether confident that existing statutory remedies will be sufficient, even if we remove all of the unfair trade in our bilateral Japanese-American relationship.

Unfair trade is an important portion of the problem, but not all of the problem. If import pressure mounts and our trade deficit continues to climb, there are certainly many in Washington who believe our trade laws should be modified to make it easier for domestic industries to gain relief, whether the imports are fairly traded or unfairly traded and, as you know, there is considerable discussion in Congress on a surcharge, perhaps 20 or 25 percent, on imports from Japan and perhaps other countries refusing to open their markets to United States goods.

If the situation doesn't improve, that is certainly an option that Members of Congress will want to consider actively as they are undoubtedly doing, evidenced by this hearing itself.

Now, persuading the Japanese to open their markets and to restrict their exports in certain areas really is only one element of a complex campaign we must wage to increase the competitiveness of our industries here and abroad.

On the part of Government, there is a third critical element: macroeconomic policy. We need progress to reduce the trade deficit and that depends, in substantial part, on further progress to control our physical situation and to reduce the size of our budget deficit, and so bring about a gradual depreciation of the dollar.

As we all know, the dollar has declined somewhat in recent months. The yen/dollar rate is now roughly 236 to the dollar, down considerably from what it was earlier in the year. But I sense that this is not sufficient. Even after the J curve works itself out in the course of 2 years, this is not going to change, by itself, the huge bilateral deficit we have with Japan and with many of the other emerging industrial countries of Asia.

Some of them have lower costs, and those costs are simply not going to be overcome by a depreciation of the dollar, unless that depreciation is so large as to have very serious impact on our domestic economy.

It seems to me we also have to look at the issue of perceptions, both here and in Japan.

On the one hand, I think we have to be candid and say that the American people, all of us, really have to roll up our sleeves on the trade issue and rise to the trade challenge. We have to develop a trading mentality, which we as a country have really never had, though some of our corporations have developed it in recent years. We have to take pride in producing quality goods that foreign consumers want to buy; and the Japanese also have to realize a few basic facts as well.

Trade is a two-way street. We cannot buy unless they also buy. And for an international trading system that's been relatively open to endure, no major trading country can run perpetual trading surpluses the way Japan and some of the smaller industrialized trading countries of Asia and Brazil appear likely to try. The present system will survive only if Japan truly opens its domestic market, becomes a locomotive, helping to pull world trade.

Over the course of the past 4 or 5 years, we are the ones who have provided the locomotive to world trade. We are the ones who have helped the others pay their international debts. And now, as we swing from a surplus country to a debtor country, the shoe has to be on the other foot.

Mr. Chairman, that concludes my opening remarks. I'd be delighted to respond to anything you wish to raise at this point.

[The prepared statement of Mr. Eckes follows:]

PREPARED STATEMENT OF HON. ALFRED E. ECKES

Good morning Mr. Chairman and members of the Subcommittee. It is a pleasure and honor to testify this morning concerning the mounting international trade deficit confronting the United States and the role Japan has played in the development of that deficit. As a Commissioner of the independent factfinding and quasi-judicial International Trade Commission, I see not only the statistics tracing the tidal wave of imports now engulfing this country, but the victims of that wave who come to the Commission to petition for relief.

The list of such victims is growing longer and is including an increasing variety of industries. Basic industries such as steel and steel products have been under pressure for years. They were joined by firms producing textiles, transportation equipment, and consumer goods. Now industries once thought relatively invulnerable to foreign competition, such as specialty chemicals and semiconductors, are claiming injury.

The strong dollar and our loss of competitiveness in world markets have reduced the export side of our trade balance as imports have flooded in. A disastrous trade deficit is the result. When I joined the Commission in 1981, the U.S. merchandise trade deficit was $31 billion. In 1984, using the same customs basis measure, the deficit was $111 billion. Now some estimate that the 1985 deficit could reach $150 billion.

Deficits of this magnitude are unprecedented in world economic history. We ran huge deficits with our major trading partners last year (Canada, $22 billion, Japan, $34 billion). Our total deficit with the four largest European economies--Germany, France, Britain and Italy--exceeded $17 billion, up from $8.7 billion in 1983. Perhaps the most dramatic recent development is the growth of our deficit with the newly industrialized countries. Last year our total deficit with Brazil, Taiwan, Korea, Hong Kong, and Singapore reached $23.8 billion, up from just under $14 billion in 1983.

It is obvious from these figures that Japan does not pose our only trade problem. However, Japan is a major contributor to our growing trade deficit, and trade with Japan has developed a pattern that is apparent in our trade with many other countries. That pattern is a sharp departure from the one that brought us trade surpluses from the 1890's until the early 1970's.

Until the 1970's, the United States imported raw materials and petroleum and exported manufactured and capital goods. In 1971, the longtime trade surplus disappeared and a trading trend began to emerge that is clearly evident today. The United States now is exporting raw materials and agricultural goods and importing manufactured products.

Our trade with Japan, as well as with other East Asian and newly industrialized countries illustrates this pattern. Last year, our five leading exports to Japan were yellow corn, soybeans, bituminous coal, wheat, and cotton. The principal types of imports from Japan were motor vehicles, office machines, consumer electronic products and semiconductors.

There have been dramatic changes in the international economic order in the last twenty years that have helped bring about this situation in which a developed nation exports primary products to countries in earlier stages of development and imports value-added industrial goods. After World War II when the GATT system was being designed, capital flows were generally restricted. Currencies, though not generally convertible, were pegged to the dollar and gold, making exchange rates relatively predictable. Now capital flows often exceed $100 billion in a single trading day and these financial flows dictate exchange rates. The flow of money to the U.S. to take advantage of high interest rates and relative security has strengthened the dollar to the point where our manufactured goods are outpriced on world markets.

Transportation costs once helped protect our domestic markets from low-cost import competition. Now container shipping and jet freighters have reduced the expense and time required for foreign goods to reach our shores. An ITC study last year noted that freight rates as a percent of value for manufactured imports have fallen nearly 25 percent in only six years.

Before GATT, tariffs were the principal barrier to U.S. imports and exports. Now tariffs restricting imports to the United States have been substantially reduced (as they have been in other developed nations), but our exports are confronting more subtle barriers such as standards, certification, and customs clearance procedures--barriers that are erected very effectively by our trading partner, Japan.

Most importantly, in the 1980's there are many new traders offering their goods and services on the international market. Countries such as Taiwan, Korea, and Brazil have used modern technology and low-wage labor to build truly impressive export strength. Some of the newly developed countries have amassed large debts to finance their industrial expansion and now need the hard currency exports can provide to service those debts.

One might apply the term "neomercantilist" to some of these new entrants. They are determined to gain competitive advantage through generating huge trade surpluses and are less interested in contributing to the balanced growth of the international trading system. Their governments guide industrial development, fostering the growth of targeted industries and restricting imports to provide protection during that growth.

These countries may well be using Japan as a model. In examining the causes of our growing deficit with Japan, we must not lose sight of the fact that Japan's trading history is being repeated elsewhere. Improving trade relations with Japan will not bring about any miracle cure of our deficit disease.

There is no doubt, however, that Japan poses serious problems in the efforts of the United States to reduce its trade deficit. Japan is a formidable competitor in the world marketplace; and its bilateral trading relationship with the United States is severely strained or we would not be having this hearing today.

We are not unique in having a trade deficit with Japan. Since 1979, Japan has had substantial and expanding surpluses with Western European and Asian trading partners, and except for 1983, with Latin American countries. However, the United States is Japan's principal export market and the second most important supplier of imported goods. In 1984, the United States purchased more than one-third of Japan's exports and supplied one-fifth of its imports. Japan's surplus with the

United States in 1984 was more than five times the level in 1979; and this surplus could reach $50 billion in 1985.

Japan's worldwide export drive has been phenomenally successful, its exports rising 65 percent from 1979 to 1984 to total $170 billion. Imports also rose 22 percent during the five years to $134 billion, but nearly half of that import value in 1984 was accounted for by mineral fuels. Japan's imports of manufactures, on the other hand, totaled less than $29 billion in 1984, while its manufactures exports were over five times that level. Between 1979 and 1984, manufactured goods accounted for over 90 percent of Japan's exports but less than 20 percent of its imports.

Japan's supporters have argued that U.S. industries have shown little skill in approaching the Japanese market, and that poor salesmanship, as well as the overvalued dollar, underlies our trade deficit with Japan. However, these statistics show that no one is selling Japan substantial quantities of manufactured goods.

How did a densely populated nation with few natural resources, rise from the devastation of World War II to become the trading giant that is Japan today? A 1983 International Trade Commission study on targeting reports that from World War II until 1965, Japan pursued a very aggressive targeting policy, controlling the import of goods, services, capital, and technology, and directing resources to industries that held the most promise for growth. During that period, Japan provided many benefits to targeted industries, such as direct subsidies, tax incentives, favored access to loans and foreign exchange, antitrust exemptions, export promotion, and home-market protection. Since 1965, Japan has liberalized its trade and investment controls, and formal trade restrictions have been brought in line with those of other industrialized countries. However, certain forms of financial assistance, informal foreign investment restraints and nontariff barriers to imports still remain.

The Ministry of International Trade and Industry in Japan (MITI) determines which industries to target, favoring those whose output is essential to the economy; those that produce a high percentaage of the final value of output (that is, where purchased components are a relatively small share of the product's selling price); those that produce materials or components that are needed by other major industries; and those that can achieve economies of scale through expansion of facilities. Certain uncompetitive, declining industries, such as aluminum, also are targeted for assistance. Different industries have been targeted at different times during the postwar period. In recent years, targeting has shifted to high-technology industries such as computers and robotics.

For targeted industries, MITI develops "visions" or plans which project trends for the industry and the resources needed to achieve growth targets. Between 1973 and 1983, visions were drawn up for at least 10 industries, including iron and steel, polyethylene, synthetic fiber, color television sets, and information industries. The actual implementation of a plan is left to the private sector, although MITI obviously influences the funding provided by Government financial institutions. However, direct Government financing is limited -- in 1982 Government financial institutions accounted for less than 15 percent of loans to private industry.

Financial assistance from the Japanese government can take other forms, however, such as loan guarantees and export assistance. In addition, the Japanese tax code favors specific industries, encourages private research and development, and gives substantial incentives to Japanese purchasers to buy products of targeted industries. Government grants and subsidies for research and development also are effective targeting tools, and, for example, have been used extensively since the 1950's to develop the computer industry.

Under GATT and U.S. trade law, government subsidies to specific industries constitute an unfair trade practice. Many forms of government assistance, however, are not considered unfair trade practices under U.S. law. For example, low-interest loans or export credits would not be considered countervailable subsidies unless it could be shown that they were not available generally, and that funds would have been available to the industry without government intervention. In the case of R&D support, U.S. practice is to consider only those subsidies paid to stimulate production or exportation countervailable, but not those to support generic research. Thus, although financial targeting is not compatible with GATT or our laws, proving that an industry has received special assistance and quantifying that assistance can be difficult. Also, subsidies that do not result in exports to the United States during the period in which they are given are not countervailable. Aid to high-technology industries, for example, might not affect exports until long after the subsidy is granted. It is not surprising then that as of the end of December 1984, there were only two U.S. countervailing duty orders outstanding for Japan -- certain fasteners (1977) and chains of iron or steel (1978).

The unfair practice of dumping, however, is somewhat easier to address under trade law. It is a practice resorted to by exporting industries to gain a foothold in a foreign market or to maintain production and sales in the face of increased competition or declining demand. Interestingly, there are many more outstanding U.S. antidumping orders against Japanese goods than against the goods of any other country. Going back to 1970, orders cover goods from television receiving sets, to large electric motors, to titanium sponge.

A connection between illegal dumping and government targeting practices is difficult to draw, as targeting does not necessarily lead to price discrimination or sales below cost. However, underpricing a domestic product in the U.S. marketplace can be accomplished more easily if Japanese Government assistance to the industry producing the product or to the industry producing the components of the product has cut the costs of production or exportation. Such assistance adds to the factors of competitive advantage such as low labor costs to help the Japanese penetrate U.S. markets.

The home-market protection component of Japanese targeting I am certain will be discussed in detail during your hearing this afternoon. This is the aspect of our trading relationship with Japan that is receiving the most attention in Congress, the Executive Branch, and the press. Developed nations tolerate a substantial measure of home market protection on the part of newly industrialized nations to help them nourish fledgling industries. But today we and other countries are saying to the Japanese, "You are no longer an undeveloped nation. Start assuming some responsibility for the health of our economic world."

The barriers to our exports in Japan are of such a nature that I am not optimistic about substantial improvement in the very near future. And we face similar (though perhaps not as pervasive) export barriers in other countries who are running trade surpluses with us. What can we do about the import side of the equation?

For one thing, we can apply current trade law to offer some relief to injured domestic industries facing unfair competition from subsidized or dumped imports. The Department of Commerce and the ITC can determine that duties should be imposed which will not restrict market access, but rather offset the amount of the unfair trade. Also, if increased imports can be shown to be a substantial cause of serious injury to a domestic industry, that industry can be given temporary relief under Section 201 of our trade law, even if the imports are not unfairly traded. However, the injury and causation standards are high under Section 201, and experience shows that it is difficult to qualify for tariff or quota protection.

As import pressure mounts and our trade deficit climbs, there are many who believe our trade laws should be modified to make relief easier to obtain. Others are urging new laws, such as one imposing a 20 percent general import surcharge, or one placing a 25 percent surcharge on imports from Japan or from any other country refusing to open markets to U.S. goods.

One Japanese response to efforts to slow the flood of imports has been to move more and more production to the United States. Under our laws, they then can be considered domestic producers, and their U.S. production escapes duties or possible surcharges. On the other hand, many of our industries have moved production offshore in order to survive, and they may well find their goods facing any duties or surcharges we impose.

Of course imports have had some short-term beneficial effects on the U.S. economy. Cheap and varied imports have expanded consumer choice and have helped hold down inflation.

However, import competition has forced a painful contraction in many of our key industries. Many of these import-battered industries will not be in condition to compete when, as we hope will happen, the U.S. budget deficit is reduced and the dollar is nc longer over valued. They can not commit the funds necessary to modernize and raise productivity so that they may compete successfully with foreign producers having modern technology, cheap labor costs, and a strong desire to export. A declining dollar will not automatically solve our import problem. Foreign competitors who now have a substantial presence in the U.S. market will, in many cases, simply reduce their profit margins as the dollar sinks, and retain market share.

And our competitors, particularly the Japanese will be looking for new areas to penetrate. The other evening, a television news program spotlighted the Japanese development of computer-designed, prefabricated, detached houses, saying that they are reportedly superior to other housing in Japan and are proving to be a great success. The reporter noted that the manufacturers are planning to market in the United States too, and said that construction industry representatives here were not very worried about this possibility. Knowing the way the Japanese devote years to studying our markets before they make a move, I would not be so confident. Our auto industry was not concerned about Japanese competition at one time, and look what happened to it.

This year, the United States became a net debtor nation for the first time since 1914. Some economists estimate that our foreign debt could exceed $1 trillion by 1990. Traditionally, a nation must generate an export surplus to service its international obligations. Like Brazil, Argentina, and other debtor nations, we may be forced by foreign bankers into taking drastic action to reduce imports if we cannot boost our exports. Persuading the Japanese to open their markets and to restrict their exports in certain areas is only one element of a complex campaign we must wage to increase the competitiveness of our industries here and abroad. On the part of our government, the situation demands budget control to facilitate the gradual depreciation of the dollar. It also requires attention to the needs of those industries fighting unfair import competition. But our industries also must work to attain or regain a competitive edge in the world marketplace, so that if and when the unfair barriers to our exports are reduced, the world will want to buy what we have to sell.

Senator D'AMATO. Mr. Commissioner, you have very cogently stated the situation as to where we are. I'm also deeply appreciative of your attempting to outline some methods by which we can deal with the problem.

I'm wondering if we couldn't attempt to define, so that a layman might understand what we mean when we talk about dumping. We take it for granted that people know what dumping is. Would you be so kind as to outline what dumping would constitute? What practices would be categorized as dumping?

And then you mentioned that there were a number of instances in which Japan has been cited and it has been found that its industries have been engaged in that practice of dumping. And then what action was taken in those cases to ameliorate that problem and did it ameliorate it; did it deal with those problems?

Mr. ECKES. I have a list here, Senator—if you'd bear with me for 10 seconds I'll have it.

Let's take the issue of dumping. There, of course, is the economist's definition which is essentially price discrimination between national markets, selling a product at one price, let's say, in Japan, and selling it at anther price in the United States. But over the course of the years we have developed a statutory definition of it, and that statutory definition in U.S. law is compatible with international agreements supervised under the General Agreement on Tariffs and Trade.

Now, the Department of Commerce really determines what dumping is on a case-by-case basis, but if I may offer a few general remarks: Dumping is where you sell in the foreign market at less than your cost of production. It may also be when you sell in a foreign market at prices lower than you sell in your home market.

This has often been the case with Japan. Over the years, there have been a number of dumping cases filed by United States industries against the Japanese, and I have a list of all of them that were in place as of December 30, 1984—December 31, for that matter. The first involved, I guess, radio tuners in 1970. There are some 34 in number as of December 31, concluding with cyanuric acid, titanium sponge, and cell site receivers.

Just what type of relief is provided when we find dumping, and how effective is it, are two questions you posed to me a moment ago. Basically, the Department of Commerce examines whether there's dumping and what the margins of dumping are: What's the weighted average difference between the price? Let's say a Japanese firm is selling the good in the Japanese market and in the United States market. And if they say, for example, that there's a 10-percent margin, or 34-percent margin, that will be the basis for the countervailing duty which would be imposed if both Congress and the Commission find that the domestic industry is being injured.

So the margins range a great deal. Some of the margins, incidentally, against the Japanese as I recall, are relatively high. On a firm-specific basis, I remember cases in which the margins have exceeded 100 percent in some electronic products. In others, however, the margin is relatively low, let's say 2 or 3 percent. But, still, that amount of duty is imposed.

So I think it depends a lot on the industry and its competitive circumstances, whether the duty is truly effective in offsetting Japanese trading practices.

My impression is that countervailing duties and antidumping duties work well in some circumstances and not in others. In short, what I'm trying to say is that the antidumping duty offsets the amount of unfairness, but it may not offset the amount of advantage a foreign producer has, because, under United States and international trade laws, having low wage rates is not an unfair practice. Having a competitive advantage from high productivity or modern technology is not an unfair practice.

Senator D'AMATO. Let me ask you, Commissioner, do you feel that there are other actions, other than countervailing duties, that might more effectively deal with the dumping cases? And, second, should the standard be—or might it not be time to examine the standard that says you must first demonstrate that an industry is being damaged, that there are serious economic consequences? Aren't we, when we wait for that proof to take place, really, then, closing the barn door—or attempting to—after the damage has been done? The proverbial horse is out and now we close the barn door.

Should we not possibly look to effectuate a more immediate remedy, a more immediate relief than the criteria of having to first wait for that particular industry to be hurt?

Mr. ECKES. You raise several good points, Senator.

First, I might say with reference to dumping and countervailing duties, this is a judicial type of area in which the Commission's decisions and the Commerce Department's decisions are reviewed by our own courts, the Court of International Trade which sits in New York City, a specialized type of Federal court.

What's unique about this area is that policy considerations have no bearing. These are strictly judicial—the Commission, which is quasi-judicial, applies the law. Where we err, the courts remand.

Are we closing the barn door after the injury takes place? That's always a problem: To be entirely fair to all parties, and at the same time provide a prompt remedy.

I might add, however, that once a petition comes in, until a type of preliminary remedy takes place, it's a period of only a few months, because once the Department of Commerce makes its preliminary determination that there is evidence of dumping, bonding requirements are imposed on importers, which have the effect of disrupting international trade or upsetting the pattern of trade.

I might further add, the way the courts have interpreted our laws recently, it is very difficult for either the Commission or the Department of Commerce to turn down petitions until a full investigation has been conducted. Thus, in cases that later prove to be valid—in cases that don't, oftentimes bonding requirements that are imposed provide a measure of relief to the domestic industry along the way.

To your other question about whether there may be different laws that can deal with the problem of dumping, particularly imports from the cheap labor countries of Asia, I might call attention at this point to something known in the trade law as the escape clause, or more formally known as section 201.

Basically, there's a provision in our law that says: Where imports are increasing and where the domestic industry can show substantial—can show serious injury, and where that injury is substantial—where imports are a substantial cause of that injury, then the Commission is obliged to make an affirmative recommendation to the President and he, in turn, can decide whether to impose quotas, or tariffs, or, perhaps, even negotiate voluntary restraints with foreign producers.

Some would say that this provision has not worked too well in recent years, in all administrations, because under the international laws, which section 201 is compatible with, the United States might be obliged to pay compensation to foreign trading partners. So, when a recommendation goes from the Commission to the President, there are often importers and exporters who think that their interests will be harmed. Great pressures emerge not to provide much in the way of long-term or perhaps even meaningful relief.

In the past couple of years, however, there have been investigations of steel and specialty steel which led to relief, and also relief for Harley Davidson, the only remaining producer of U.S. motorcycles. And, at the present time, as you know, the President is considering the Commission's recommendation to impose a program of quotas for 5 years on imports of shoes from all suppliers. But this type of measure, you see, is designed to deal with trade; not simply fair trade or unfair trade, but surges in trade which upset the condition of the domestic industry. It's designed to give the domestic industry a breathing space to adapt to international competition.

Senator D'AMATO. Commissioner, on that note I might add that when we look at the shoe industry, it's gone. As a practical matter, if we look at what our domestic industry is today and look back 25 years ago, it must be about 20 to 25 percent of what it had been. So, for all intents and purposes, with the exception of one or two manufacturing plants, it does not exist. And I'm not suggesting that we should not undertake, or the President shouldn't undertake, that policy in that area and hope that those companies that are still manufacturing will have the ability to continue and expand; and we might not bring back some industrial capacity in this area, restart some of those factories. But it seems to me that when, again, we use that one standard, the first standard, waiting to see substantial harm done to industry, already that's too late. And whether it be by failure of the Executive to recognize these surges to trade, as you say, to deal with them and effectively keep a balance—or by any other defect we still end up with the apparel industry.

In New York, with the garment and apparel industry, that is probably the largest employer of people in manufacturing jobs in the New York metropolitan area, with hundreds of thousands of jobs hanging in the balance. And those are not the kinds of jobs where you can say: Well, there's no productivity, because these people are, for the most part, pieceworkers; and the more they put out the better they get compensated; and they literally work at a ferocious pace with little, if any, time off for lunch or any other kinds of things. They are on their own. You couldn't pay them any less. When you look at their wage, salary, and benefits, they are probably in the area of $6 to $7 an hour. In today's society, in America, you can't pay a person less than that, including their fringe benefits, and hope that they are going to come to work. And some of these are skilled workers.

So that touches on your other point, that maybe we should consider, in terms of legislation, that the Commission and the International Court of Trade have the ability to also factor in labor and salaries attendant to that labor.

How can we compete if we have to pay, let's say at the very minimum, $7 an hour in a skilled area? And there are those who literally have almost what we might call slave labor, people who get paid $2 a day, $3, $5 a day; or $2 an hour, and who have the same advanced machinery to work on for their goods and services. Can we compete against that kind of environment?

I'd be interested in your thoughts and I recognize that these do not come as the Commission's thoughts, but yours as an individual. But you are an expert in this area and that's why I welcome your opinion.

Mr. ECKES. Again, responding in a personal way, Senator, it seems to me in the last few moments, in particular, you have really put your finger on the key issue in international trade. We used to hear a lot about how the United States, with its relatively high wage rates, could compete against the cheap labor of the world. Up until recent years it was never a problem, never a real problem. It was for the shoe industry, for the apparel industry, for leather, for labor-intense ones, but it wasn't a broad problem that touched the steel industry or touched machine toolmakers, or touched any variety of industries.

What has happened? Well, we've had a tremendous improvement in telecommunications and shipping. With jet freighters and instant telecommunications it's now feasible and possible to get shipments from the Far East in roughly 24 hours. The world we live in is truly a global village; it's an integrated world economy.

The 19th century economists talked about it but it really didn't exist. We are, as Professor Culbertson of the University of Wisconsin in a recent book—and it was recently discussed in the New York Times—one of the few international economists to have discussed this issue; and I see it as being a very key one, in policy and legislative considerations over the next few years.

Last year I had the occasion to go to Brazil and tour broadly. I went down and visited some of their shoe plants in the south of Brazil, and relatively modern facilities. I saw some that were far more modern, in terms of their technology, than I've seen in various communities in the United States.

I have also seen child labor in operation. There are no minimum ages in some of these countries; and I'm not prepared to say that this individual or that individual I saw was a child—was a child worker, but many of them were preadolescent. While apparently that country has a relatively strong law that they say is enforced, I saw in my own eyes many who were preadolescent, who were competing in a world in which other countries have low labor rates and different standards for allowing people to enter the work force. I think that's a key issue.

Over the next few years we may find that free trade can truly exist among the West Europeans, and maybe the Japanese if they open up their economy, and ourselves who have relatively common standards. But, in dealing with the Chinas and the Indias, we may find it very difficult to allow unregulated competition from those countries and at the same time have any industrial base left in the United States.

Senator D'AMATO. Commissioner, let me extend my personal thanks to you and also the thanks of the committee for your splendid testimony. It's deeply appreciated. I hope when you get back the other members of the committee and staff will carefully review your testimony, and I wouldn't be a bit surprised if we did not convene in Washington again to further explore this most important issue, which I believe has significant relationship to our gross national product, and our own deficit.

We talk about reducing the deficit in order to bring interest rates down. By the same token, if we can reduce the trade deficits, I believe that that will have a significant impact in getting a better GNP, that is getting more money into our Treasury, more Americans working, more productivity. That in itself will help reduce those deficits that we have, our budget deficits. So they are closely entwined. And I'm most concerned about to some of the expedient measures that have been proposed that might be even more damaging than the present situation that we have.

I also believe that we do a great disservice by simply saying: You cannot impose any sanctions or any kind of quota in a particular area, because that's going to cost the consumer more money. We've heard that too much. It's the standard rallying cry, that the consumer always benefits by the imports that come into this country. I'm not so sure if that's the case. I don't know how much of those savings are passed on to the consumer, No. 1; second, that consumer is going to have a pretty tough time consuming if he or she has no job.

Mr. ECKES. Right.

Senator D'AMATO. Then how do they consume? Do they then become a charge to the Government and enter the other area of social services, and then we provide them with the economic wherewithal?

So the consumer also must be a producer, and if we destory the ability for there to be production and for our consumers to be involved in that production, I would suggest that the theory that is oftentimes put out that says: Oh, you have to be careful; we don't want the cost to the consumer to go higher. If you insist on seeing to it that there is no dumping or predatory pricing practices or if you allow these large surges in trade and imports to move into the country then the consumer will suffer. Well, in the long run, in the fullness of time, I believe he suffers a more serious and long-sustaining injury, if we just allow that situation to continue. He will not be a consumer because he certainly won't have the ability to be that since he is not part of the productive area.

I think that's where we have to look. I don't think we are doing enough, myself. I think our policy is one that is well intended but is not applicable, in the changing dynamics of international trade. It's changed so relatively quickly that it's caught us short and we are attempting to deal with the situation with old standards that are no longer applicable.

What do you think about the old standards no longer being applicable?

Mr. ECKES. This is obviously an issue where the President is going to——

Senator D'AMATO. See, I'm putting the Commissioner on the spot now.

Mr. ECKES. You certainly are, Senator. Some of the standards we may well apply were applicable to a world without the intense and damaging competition that we are all experiencing. I think there's a lot of rethinking going around. I know in my own mind there has been over the past 3 or 4 years, as I have seen one industry after another come in. I have toured communities and seen just one plant, the only employer in town—it's going broke. Women with high school educations, who have no other hope of getting jobs are about to lose theirs—it's a very tragic situation.

Senator D'AMATO. They can't be paid any less, they are down at the bottom of the wage scales. We often hear about the unproductive steel and auto industries and how they were getting paid $30 plus an hour and weren't productive at that. We have been talking about industries, in many cases now where people are getting paid just above the minimum. When you add in the fringe benefits, that really takes them over that—and they are not making it. So that really brings to question whether or not we are dealing with laws that are adequate to deal with the fast changing international trading patterns that have emerged.

Commissioner, thank you.

Mr. ECKES. Thank you, and I stand ready to assist you and the committee in the future.

Senator D'AMATO. I think the Commissioner's testimony has just been very, very enlightening. We are pleased to have two local public officials who are deeply concerned because, in the final analysis, it's their factories and their people, their work force that in many cases are fighting for survival in the Albany-Rensselaer area. I call now panel 2, James Coyne, Albany County executive, and John Buono, chairman of the Capital District Regional Planning Commission.

Mr. COYNE. Good morning, Senator.

Senator D'AMATO. We are deeply appreciative of your taking time from your busy schedules to be here to testify. I know in both of your cases, both Mr. Buono and our County Executive Coyne, have made, as a cornerstone of their public service, attempts to attract, to keep, to expand local industrial development and job opportunities that are so important to this region and to our economy.

So, obviously the trade policies of this country have a significant impact, as to whether your industrial base in certain cases will exist, will expand, and has an opportunity to be healthy and successful. So we are delighted that you have taken your time to be here and share your thoughts with us on this matter.

Please proceed, Mr. Coyne.

STATEMENT OF JAMES J. COYNE, COUNTY EXECUTIVE, ALBANY COUNTY, NY

Mr. COYNE. For the record, my name is Jim Coyne and I'm the county executive of Albany County. This is certainly an honor and privilege to be here today to discuss the impact of foreign imports and what they have on the local economy of the capital district.

Before I address the specifics, I would first like to take this opportunity to personally thank you, Senator D'Amato, for holding this hearing today in Albany. Your personal efforts to investigate the impact of foreign trade on the local economy is greatly appreciated.

Since 1980, imports of textiles and textile products have grown at an annual rate of 19 percent, far greater than the 1 percent average growth of the U.S. market during that same period. The textile and apparel trade deficit has grown to a record $16 billion in 1984, and accounts for 13 percent of the merchandise trade deficit.

To translate these figures locally, the capital district, once a leading district for textile, apparel manufacturing, has been devastated by the influx of inferior foreign products into the American market.

Since 1979, there has been a loss of over 23,400 jobs in the clothing industry here in the capital district. Of that 2,400, over 1,400 of those positions were abolished in the manufacturing of textiles. The other 1,000 lost jobs were taken from the apparel industry. The city of Troy, known as the "Collar City," was once one of the largest manufacturers of men's shirts in the Nation. Today not one shirt, to my knowledge, is made in that city. We once had countless textile mills. Today, only a handful are still in existence.

Although textiles are a large part of our local economy, the capital district has also suffered serious setbacks in the primary metals industry.

In 1979, there were 2,600 people engaged in the production of primary metals. Today, only 1,900 people work in the industry, a loss of 700 jobs. I'm sure at that time, in 1979, when we had the 2,600 jobs we had a projection of programs for 3,500 jobs down the road, and we had the 2,400 jobs in the manufactured textiles; we had a projection of perhaps having 5,000 jobs. It is gone in reverse, unfortunately.

With over 20 percent of the American steel market consisting of foreign imports, this Nation will not be able to continue the economic recovery we currently enjoy.

Unemployment in the steel industry is still the backbone of America and it is certainly one industry that cannot be left behind. Locally, we are taking steps to enhance our competitive edge with our foreign counterparts. With your assistance, Senator, and that of Congressmen Stratton and Solomon, the Capital District Regional Planning Commission, which John Buono represents, received approval for a foreign trade zone for the Port of Albany and for the Northeastern Industrial Park, which is located in the town of Guilderland in Albany County. This will help capital district manufacturers retain many American jobs and even expand their local facilities, but it's only a beginning.

Albany County has had remarkable success, which you were so kind to mention earlier, with our revolving loan fund, which provides funds to expand local businesses and has created or retained over 6,000 jobs thus far. That's just in the past 6 or 7 years.

Working with the Small Business Administration, the Federal Economic Development Administration, the New York State Job Development Authority, Albany County has recycled over $3 million in loans since 1976, to more than 38 various businesses. I am confident that we are making the most of our existing resources and our existing programs.

In addition to steps we are able to take here in the capital district, we must look to Washington for help. Although some action has been taken to negotiate limits on the amount of steel and textiles imported, we need to take stronger measures, some of which were mentioned by the Commissioner—I thought his was an excellent testimony. I learned a lot as a local official.

Some type of disincentive to foreign trade has to be urged. Some type of incentive for American foreign business has to be put forth, in order to succeed in this very delicate and very difficult situation.

I urge you to speak to your colleagues and join in support of legislation that will help save American jobs, not only in this county but throughout the country.

The Fair Trade Act and the Textile and Apparel Trade Enforcement Act are two positive steps that will definitely serve America's best interests. Your cosponsorship of these two vital pieces of legislation, along with your membership on the steel and the footwear caucuses in Congress, the people of New York State can be assured that New York's best interests will always be a high priority in the U.S. Senate.

Despite our being on opposite aisles, if you will, in the political sphere, I think I can speak for the people of Albany County, we are very, very appreciative of the work you are doing for the State of New York and specifically for Albany County. So, in closing I would like to thank you, Senator, for giving me the opportunity to come before your committee to present the problems that Albany County and the surrounding areas are faced with as a result of unfair trade policies of other nations; and we will stay closely tuned to your results, and I'm sure you'll get positive results.

Senator D'AMATO. Thank you, Mr. Coyne, and let me again commend you for the kind of innovative leadership that you have provided in assisting the business community. Many of those very same manufacturers and employers who have to deal with the sometimes unfair foreign competition, without the assistance of revolving loan funds, the foreign trade zone that you have worked to establish and bring about, the employment statistics that you have indicated in the various industries that have been so deeply affected by the recent surge of imports into the country, I think would be even bleaker.

Now the problem is not to bring up retribution but how do we bring up growth and expansion. This is not Japanese bashing day. I certainly don't look at it in that manner. But how do we bring about allowing our own forces an opportunity of economic growth and development and productivity so we can be good consumers, seek that balance? It's easier said than done but that's what we have to strive to do.

Let me at this time say to you that if we had more people in our governance, in our government, who are concerned with creating the kind of environment that you have worked for on behalf of all the people of this county, I think we'd be far more effective in expanding the economy and jobs and job opportunities nationwide; and you have done an excellent job. It has been a pleasure for us to work with you personally and with your staff as well.

Mr. COYNE. Thank you very much, Senator.

Senator D'AMATO. Mr. Buono, it's good to see you. I'm delighted you could be here.

STATEMENT OF JOHN L. BUONO, CHAIRMAN, CAPITAL DISTRICT REGIONAL PLANNING COMMISSION, TROY, NY

Mr. BUONO. For the record, I'm John Buono, I'm chairman of the Capital District Regional Planning Commission and I deeply appreciate the opportunity to testify before this public hearing on the issue of the United States trade imbalance with Japan.

As chairman of the Capital District Regional Planning Commission, I feel I should express the concern of many of our local citizens on such an important issue.

Economic development is the top priority in our regional agenda, and that of our local communities. Many firms in our region are engaged in foreign trade, and we believe that foreign trade will play a more important role in our regional economy.

Our Nation's trade deficit with Japan makes up one-third of our total trade deficit and is forecasted to reach between $140 and $150 billion in 1985.

There is more than just strong evidence that cheaper foreign products have forced the layoff of employees in some of our industries and has hurt our Nation's economy.

I do not believe that building a protective wall is the best or the only solution to the problem. The majority of our people would agree that free international trade is good for world peace, and the overall economy.

It is also in the best interests of our consumers to be able to buy the quality goods they want at the lowest price, regardless of the country of origin, as long as that country is a trade partner, a trade partner who has also opened its markets to our products.

The strength of our economic system is built upon fair competition. To compete in domestic as well as foreign markets, industries must constantly retrofit their machinery, improve quality control and their management systems. We must win over our competition with new innovations and quality products that meet the customer's needs.

Our firms should rely on technological superiority, and not just protectionism to meet foreign competition. However, there is another side of the story that tells us that the game is not played fairly by some of our foreign trade partners, including Japan.

Why did it take so long for the Japanese Government to announce that it will reduce or eliminate quotas on 1,853 industrial products, and modify its hidden trade barriers—standards and certification rules—which hamper efforts by foreign companies to sell in Japan? Why do quotas still remain on the importing of many agricultural items?

In addition to the Japanese Government's protective policy that discourages imports, the Japanese people are said to distrust foreigners, and have bias toward imported goods. They do not like to buy and use foreign products.

A friend of mine recently returned from a visit to the International Science and Technology Exposition in Japan. He told me that the Japanese people waited 1 to 2 hours to see each of the exhibition pavilions of major Japanese companies. The pavilions of other companies, including many Western industrial nations, were sparse with visitors.

Retaliation through the use of quotas and tariffs may be a last resort action for our Government to take, but may not be the best action. Certainly, we should pressure the Japanese Government to accelerate its announced program to open up its markets and press for more trade.

The 3-year phase-in period is too long. We welcome and encourage their direct investments through the building of plants in the United States and the use of foreign trade zones. A campaign should be launched by our Government and national private trade organizations which will be aimed at the Japanese people directly, reminding them that foreign trade is a two-way business, and in order to sell "made in Japan," they must also buy "made in the U.S.A."

I want to thank you personally for your efforts in helping us establish the foreign trade zone in the capital district. The Capital District Regional Planning Commission is the grantee of this operation, and the direct operator will be the Galaci group.

One of the areas that we are looking at very carefully is in the Port of Rensselaer, which county chief Coyne looked at. The foreign trade zone gives us a little bit of that competitive edge for some of our industries.

Senator D'AMATO. Would you care to expand? I would like to ask a question. With your foreign trade zone, how do you see that enhancing your competitive position?

Mr. BUONO. What's going to happen is parts for products are going to be housed in these areas: We have three sites, Guilderland, Rotterdam, and the Port of Rensselaer. The customs duties won't be imposed on those goods until they are packaged together; or even if some of them are damaged along the way the tariffs or customs won't be placed on those particular products. This allows them to then be put together.

The Harley Davidson Motorcycle——

Senator D'AMATO. You are saying the assembly line, et cetera, that then takes place in the work force, that harnesses these raw materials and puts them together, whether it be clothing, Harley Davidson, et cetera, is an American work force?

Mr. BUONO. Absolutely.

Senator D'AMATO. Otherwise, with the duties that are imposed, becomes that much more difficult to compete with the imports that come in from foreign countries already assembled?

Mr. BUONO. Absolutely. That replay to the dumping that was discussed earlier.

Senator D'AMATO. What are some of the businesses that you see being affected? Can you name some who will take advantage of this?

Mr. BUONO. Galaci itself, their operation.

Senator D'AMATO. What is Galaci? You have to understand I'm not familiar——

Mr. BUONO. The Galaci is a Fortune 500 industry.

Senator D'AMATO. Oh, the Galaci, yes.

Mr. BUONO. They will be the operator of our zone. Just that kind of organization itself operating on this particular site is going to enhance it, No. 1. There are a couple of individuals who are looking at getting into the warehousing area, just to store the goods initially; and after that, it is hoped that certain manufacturing organizations will be tied into these kinds of entities, looking to create several hundred jobs, as you yourself, Senator, indicated a couple of weeks ago when you announced the establishment of the foreign trade zone.

In addition, there are some corporations which have expressed interest in coming into the foreign trade zone.

I, particularly, being from Rensselaer County, and Jim Coyne from Albany County, look to the Port of Rensselaer for an area which will be in the capital district, an area of great economic activity. It's an untapped resource in the capital district region and, with the Port of Albany proper itself being pretty well filled, if you will, the Port of Rensselaer, because it is included in the foreign trade zone—although not operational per se—is going to be the future of this area, I believe.

Senator D'AMATO. So you see it really helping your local businesses to be more competitive?

Mr. BUONO. Absolutely, Senator. Absolutely.

I know we have some of our local people who will be here today, and if you look at local papers today you'll see even the National Semiconductor, which was involved—is involved in making the small lights for the computers and calculating devices and things like that—it's going to have a shutdown for a little while because of the effect of the unfair Japanese competition.

Organizations like that can take great advantage of what we will have to offer at the foreign trade zone.

Finally, though, I'd like to say, you know, fair play is the measure. It's like the United States taking a basketball team——

Senator D'AMATO. You see, Mr. Buono, that this is one Senator who is—whose impatience with the lack of progress that I see taking place with the Japanese is running thin. Do you have an idea or sense that's where I am coming from?

Mr. BUONO. I absolutely do, Senator. I applaud that. It's about time we had that kind of thing going on here.

Senator D'AMATO. For the record, I will liken the Japanese activity or their responses to legitimate concerns that we've posed to the kind of response that many parents, including this one, gets from his children when they call to their attention a shortcoming.

For example, failure, maybe, to turn the lights out or to put the garbage out or to walk the dog. There is certainly the response:

Yes, I will do it. And the next night you find the garbage has not been put out and the dog was not walked and the lights were not turned out, and they say when you remind them of that: Yes, I will do it.

It's never "no." It is "yes," and it never happens. Of course, with the Japanese, I think we have been getting promises that they will adhere and deal with the problem, but it's never done. And I think that they and my sons have been going to the same teacher and have learned the same courses and have passed them successfully and hope springs eternal and we continue to wait for them to undertake that which they have promised.

Well, unless we do something they'll never do it. And if I sit back and just let my boys continue to say "yes" and not respond to it, why, they are never, never, never going to put the garbage out and the Japanese are never, never, never going to change their way. They will continue to say "yes" to Congress after Congress, trade group after trade group, President after President, until, I believe, like an aroused parent, you finally take some action to discipline his children. And they at that point they say, in a very injured way: Why are you mad at me? Maybe we are responsible. Just like the parent who has allowed the situation to continue and threatens some kind of punishment or punitive action or withholding of allowance, et cetera, when it finally comes to be. When we finally do it, why, the child is taken aback and says: My gosh, why didn't you tell me you were really serious?

I don't know what we have to do to tell the Japanese and others that we are serious, that we are really serious. Dare we undertake the kinds of legislative actions that I see are being contemplated? I for one don't want to have their minister call upon me—and I have had their Ambassador make several calls—I haven't met with him. Not that he's not a perfectly lovely man, but I've reached the point where, as the parent who finally has to discipline his or her child, you have to say; Look, we can't continue this anymore. But that's an analogy that I think might be rather appropriate, in the setting that we find ourselves today.

Mr. BUONO. Very appropriate. Very appropriate.

Senator D'AMATO. Thank you for coming in, Mr. Buono, and you continue to do your fine work and we'll see what we can do in the Congress to help with addressing these problems.

Mr. BUONO. Thank you very much for having me.

Senator D'AMATO. We have as the third panel the people most affected by this—people in the business community. Mr. Augustine J. Sperrazza, Jr., who is chairman and CEO of PacAmOr Bearings Co. and Kubar Bearings Co. in Troy, NY.

I don't know if we have any more bearing production. I didn't know we had bearing production in the United States, Mr. Sperrazza. You might care to comment on that. I thought ball bearings had been wiped out in this country.

Mr. SPERRAZZA. Well, Senator, we might be on that track.

Senator D'AMATO. Then we have Mr. John Latona, vice president of——

How do I say that?

Mr. LATONA. Hoodie.

Senator D'AMATO. Hoodie. I have to be careful. Who died? Who died? [Laughing.] No, Houdaille Industries. How did Houdaille come about?

Mr. LATONA. About 60 years ago, some Americans acquired some French patents for shock absorbers, so it's a French name but it's not a French company.

Senator D'AMATO. We are delighted that both of you, who are in the business of competing and have great perspicacity because you're still in business, for testifying here today. Thank you.

Mr. Sperrazza, if you'd talk about the ball bearings, maybe you'd like to tell us what's taking place in that industrial area, what you are doing, and how it is that you are still in business?

STATEMENT OF AUGUSTINE J. SPERRAZZA, JR., CHAIRMAN AND CHIEF EXECUTIVE OFFICER, PacAmOr BEARINGS, INC., AND KUBAR BEARINGS, INC.

Mr. SPERRAZZA. Well, I'd be very pleased to do that, Senator.

The first thing I would like to say is that my testimony, what I have to say to you today, is based on nearly 20 years——

Senator D'AMATO. Would you use the other microphone?

Mr. SPERRAZZA. It's based on living in Japan for 3 years, and having been a purchasing contracting officer for the U.S. Army Security Agency. And I dealt with every level of Japanese businessman intensely for 3 years; I spoke the language. And, subsequently I have been in business and dealt directly with the Japanese for 16 years. What I have to say does not come out of textbooks, and I have not read newspapers—I have lived with these people and dealt with them for 20 years.

What is going on in the ball bearing business? Well, very briefly, we are being killed. The same story in the miniature and instrument business. Our company, Kubar, is the only remaining manufacturer of commercial grade miniature bearings in North America, the only remaining. In some areas the Japanese now hold 85 to 90 percent of the market share. But I'm going to digress for a moment, and get into that later.

First of all, I indicated I dealt with the Japanese for 20 years. I lived there for 3 years, I was a purchasing contracting officer. I bought everything from food supplies, services, utilities, water, electricity, construction of road and buildings.

Subsequently, I founded and became CEO and chairman of PacAmOr Bearings, which designs and has manufactured abroad to its specifications, precision ball bearings, predominantly in Japan. And I also am CEO and chairman of Kubar Bearings, which I discussed before.

Now, I would like to bring to your attention the strategic importance of the product that I'm going to discuss with you, just to give you the significance of what we are talking about. I know it's very difficult for the people that manufacture shoes to be put out of business; and I understand it's very difficult for people that manufacture textiles to be put out of business, and it's very difficult for anybody to put out of business. But the main point I want to bring to the attention—to you, is people are being put out of business in this country who manufacture products that are vital to our defense and the national interest.

Now, we happen to make miniature precision ball bearings, and there is a saying that "everything in the world except the earth itself, turns on a bearing." This happens to be true.

The first targets in Germany during World War II were ball bearing factories, and the basic reasoning was that if there were no bearings the entire war machine had to stop. Factories couldn't produce, power couldn't be generated, vehicles couldn't operate, and so on. Miniature precision ball bearings are the most strategic and highest precision. The applications are business machines, instruments, computers, defense systems, weapons, and missiles.

There are only nine companies in the free world with the capacity of manufacturing miniature precision ball bearings. Tolerances are measured in millionths of an inch. Factory conditions are 10 times cleaner than a hospital operating room where you would get open heart surgery.

The statement I'm about to make will sound dramatic but it is true and it comes from Caspar Weinberger. There's an article in the New York Times which is enclosed as part of the testimony, "The balance of power or terror between the United States and the U.S.S.R. has shifted dramatically due to two coffee cups of miniature precision ball bearings."

This is a very lengthy article and I'm going to summarize it in about six sentences.

Initially, Russian missiles were inaccurate, and we are talking about in the 1960's. Therefore, Russian missiles and warheads were built bigger and bigger, the theory being that even if the target was missed the larger warhead could still destroy the target. Let's say an American city: If the missile landed 20, 30, or 40 miles away the bomb would be so big it would still destroy it. However, even with the larger warheads and missiles, United States strategists did not feel that the Russian threat was as significant as it could be, since it was believed that the then given degree of inaccuracy, even with the bigger warheads, the Russian missiles still wouldn't destroy the target.

The Russians could not achieve accuracy with their missiles because they could not manufacture miniature precision ball bearings to the exacting specifications necessary. The gimbals of the required missile guidance systems turn on miniature precision bearings. We Americans allowed both American manufactured bearings, thousands of which can fit into a tiny cup, and the unique American-made machine tools necessary to manufacture these bearings, to fall into Russian hands.

What I'm saying now, is two coffee cups of miniature precision bearings were stolen or leeched from the United States, installed in the Russian missiles that could never hit the target before, and now those Russian missiles can hit the targets.

Now that the Russians have achieved such accuracy, with our help, a missile hurled from Siberia and aimed at New York's Central Park, can hit it.

This is the significance of miniature precision ball bearings. The bottom line for America, as I see it: Whereas before the Russians acquired American manufactured miniature precision bearings and related machine tools, a first strike by the U.S.S.R. at the United States would be followed by a devastating retaliatory strike by the United States on the U.S.S.R. However, with the newly achieved accuracy of Russian missiles, a first round attack would be fired at our land-based missiles accurately enough to pinpoint and knock them out, and still the Russians would have enough missiles remaining to hold all of our cities hostage.

Although we would still have our submarine based missiles for a retaliatory strike, the point is how significantly our position has deteriorated and how absurd that we allowed it.

Basically what I have indicated to you is what the importance and significance of miniature precision ball bearings are.

I want to say what has happened to that industry in the United States. As I indicated, there are only nine remaining in the world. The following is a list that have either discontinued operations in the United States, gone bankrupt, or sold out to the Japanese: SKF, which is the world's largest multinational multibillion-dollar operation. They sold out to the Japanese in 1960.

Senator D'AMATO. They sold out? SKF was a multibillion dollar——

Mr. SPERRAZZA. Still is, but they had a division that made miniature precision ball bearings in Chatsworth, CA, and the Japanese bought that out sometime in the 1960's. So SKF's miniature bearing business disappeared from the United States.

Senator D'AMATO. They no longer make them in the United States.

Mr. SPERRAZZA. SKF does not. Japanese bought the plant and the Japanese do, sort of.

New Departure Hyatt, which was a division of General Motors, simply closed up.

Fafnir, a division of Textron, discontinued manufacture of miniature precision bearings.

Microtech discontinued. Schatz Federal Mogul discontinued.

And Kubar Bearings, for a period of several years, discontinued operations until we bought, PacAmOr bought Kubar, and we have now refurbished it and got it back.

So, out of 9 or 10 plants that manufactured miniature precision bearings in the United States, we now have 3—I should say 4, 1 of which is Japanese owned, 3 American owned; 1 of which almost does not manufacture at all any more, and we are the only American owned—Kubar Bearings, Inc., is the only American-owned manufacturer of commercial grade miniature precision bearings left in the United States.

I have about 50 or 60 pages of pertinent statistical information for the record.

Senator D'AMATO. Why don't we do this, as it relates to the pages of statistical information, I would like that that to be part of the record. So I'm going to ask that, if you would, either now or at another time, submit that as part of the record and then you can proceed in your own fashion now to make known the relevance. Highlight it, if you wish. We would like to have that statistical information as part of the record.

Mr. SPERRAZZA. That will be done and was planned. The only pertinent things that I have to say is that basically the statistics are overwhelming. They will indicate that Japanese, from an almost insignificant market share in bearings, and miniature precision bearings particularly, control up to 90 percent of certain markets now in the United States, and their percentages just keep increasing and increasing. Our jobs are lost, our industries are weakened, and our position continues to deteriorate. And that is—as a matter of fact, all of that information comes from the International Trade Administration.

Senator, I would like to go into now some of the—what I have observed first hand, some of what I consider to be the unfair trade practices.

The first point I would like to make that I haven't heard brought out yet in this hearing, is that American businessmen would be jailed for practices allowed by the Japanese.

What I'm saying is we are not even allowed to compete fairly here. We are hampered by our own laws, to a degree.

Price fixing, dumping, collusion—the Japanese are able to accomplish all of those and we cannot because we are subject to antitrust laws.

The way that operates in Japan is that the Japanese companies, companies themselves, give information to MITI, that's Japan's Ministry of International Trade and Industry, and they give this information regarding market, et cetera. MITI then establishes domestic and export price levels.

As far as dumping, the Japanese accomplish dumping, yet successfully were allowed to evade the law created to prevent it. I'm going to go into how they accomplish this in a second.

Senator D'AMATO. I'm glad you are going to do that because the Commissioner is here. I want him to listen to how they do this dumping and get around the law. He probably knows. I might even ask him to comment.

Mr. SPERRAZZA. I'm sure he's familiar with it, but I probably will state a small part of what the Commissioner is really aware of, but my main point is I have become aware of this not by reading but by talking——

Senator D'AMATO. By being there.

Mr. SPERRAZZA. By being there and going to Japan and having the Japanese visit me and talking with them for 18 years and listening to them.

As far as collusion is concerned, the Japanese companies effectively accomplish allocations of productions, markets, expansion allocation of capital equipment in periods of long leadtime and shortage, and they do this by informing MITI and allowing MITI to establish policy on the above.

I'm going to go into the outline—an outline sketch of the Japanese structure which breaks and evades the United States laws of fair trade and business.

Seventy five percent of manufacturing GNP, banks, and government, are controlled in Japan by cartels. MITI is established as a department of the government of a sovereign nation. Industries are targeted for dominance. Targeted industries qualify for bank loans with conditions necessary for the targeted industries to sustain predatory practices in order to achieve dominance.

Japanese marketing advises the home company of the price level necessary to capture the American market. The home company advises MITI. MITI establishes the price level for support, and then carefully establishes the Japanese domestic price level below the export price level in order that dumping laws can be evaded.

Now, this is the important part. If the necessary price levels, that the Japanese come back and say we have to market *x* product at *x* price, are not viable for the companies involved—these are targeted companies—interest rates and terms of the loans are adjusted downward so that the Japanese companies entrusted with the mission of market dominance can achieve their goals.

Note that since the leverage allowed in those companies sanctioned by MITI is so much higher than that of a typical American company, interest rates and conditions of loans are an extremely significant relative factor determining the viability and profitablity of the company involved; and, in fact, the Japanese banks are concerned only with the service of the debt, rather than the ultimate payback.

Now, what American company can compete with that?

Senator D'AMATO. Commissioner, come on back here.

Mr. SPERRAZZA. Do you follow me, Senator?

Senator D'AMATO. Sure I do. What you are saying is they establish a target industry, as you see it. Come sit down here. This is a little bit unorthodox but I'm kind of unorthodox.

What you are saying is they target a particular industry and predicate their loan policies on being able to achieve that goal, helping, working with that business, and they may be interested in simply the interest. We'll work out that debt after your achieve your dominance, and your objective.

One of the things that strikes me is the Japanese film that they are beginning to advertise; and I say: Dear God, Kodak better watch out, because I wonder what they are going to do and how they'll undersell and undersell and undersell, and underprice and spend millions and millions and millions on advertising. They'll cut the price, of course we'll rush to it and all the retailers will go on this huge binge and say: Buy this wonderful product. We'll knock 50,000 people out of jobs.

Of course, Kodak can't go to the bank and borrow money at that rate. Commissioner, you heard Mr. Sperrazza talk about that one aspect. Have you seen that kind of situation? Do you have the tools to examine the kinds of cases that may come to you in that kind of depth?

Mr. ECKES. I think this is the real value of his testimony, it's that of a firsthand practitioner who has seen the marketplace. About a year and a half ago we were asked by the House Ways and Means Committee to look at Japanese targeting as we did for Korea, Taiwan, and Brazil, and even the European Community. And we sent a team over to investigate and, of course, we talked to businessmen; and our investigations went from bureau to bureau and selected data. But it's very hard to get the type of hard evidence, such as this gentleman is offering us today, on a case-by-case basis. I think this is really valuable.

Senator D'AMATO. Why don't you continue?

Mr. SPERRAZZA. The final point, I don't know that I brought out, is that the above practices that the Japanese are involved in are clearly a violation of antitrust laws and, basically, any company doing business in the United States is subject to these laws.

Senator D'AMATO. You mean should be subject? Our companies are——

Mr. SPERRAZZA. Should be; our companies are, but here's how they get away with it, however. The Japanese are an exception in the way they evade our laws by having MITI engage in these illegal practices, rather than the companies themselves. MITI is a creation of a sovereign government. The antitrust laws are directed at companies, and the collusion, and price fixing, and dumping of companies. But what happens in Japan is the companies feed the information to MITI and then MITI gives out the directives. They get away with it.

MITI is the one that's doing it and they are a department of a sovereign government. And if these practices were done in the United States, the people involved would go to jail.

So, what happens is the Japanese businessmen now have carte blanche to evade and avoid all the laws that we as American businessmen have to follow.

Senator D'AMATO. Does MITI go to the banks and tell them how——

Mr. SPERRAZZA. It works both ways. The basic cartel—there are six or seven basic, heavy cartels that control the Government, the industry, and everything else. So they all are—they are basically a samurai society: six, seven controlling families control everything. They work very closely together.

Senator, if it pleases you I'll go onto some of the——

Senator D'AMATO. Please continue.

Mr. SPERRAZZA. Additional unfair advantages granted Japanese companies.

One of the things I came up with is that United States companies are not allowed to retaliate by selling into the Japanese market because of nontariff barriers, previously discussed so I won't elaborate, and the social structure and policy; 75 percent of the Japanese manufacturing GNP is controlled by the cartels, and as a matter of policy they don't buy foreign if a Japanese product is available. You just don't do it. And they have very, very strong disciplinary—a very disciplined society and nobody is going to buck that. And this happens to also include cases where American companies can be price competitive, despite all of the cartel advantages granted their Japanese rivals.

Another thing that's really unfair is that the targeted industries by MITI come under the protection of cartel safety nets. Basically, what this means is that any company in a targeted industry will be aided by the Japanese banks/cartels in the time of difficulty. How many United States companies would like that reassurance as they make plans for the future? I mean, how many American companies can turn around and say well, if we get into trouble, don't worry, we can go to the bank, here or there, the Government, and we arc going to be taken care of? Our companies are on their own but the Japanese that are in these targeted industries are not. They are supported nationally. And I go into the cost of capital.

Higher leverage is permitted in Japan than the United States, therefore less capital is required and therefore it's much easier to provide stockholders with dramatic results. Additionally, banks in Japan can be preferred stockholders, and that is not so in the United States. And what we are basically saying is a businessman here in the United States, in order to attract investment capital, may have to pay 20-, 30-percent return to attract an investor. In Japan, they need a very, very small amount of money, because if they are in one of the sanctioned industries by MITI, the banks will give them all of the money they want at prime rates, below prime rates. You take my particular industry, I have had to pay 30 percent for investment capital, whereas the Japanese bearing industry probably is paying less than prime. I don't know what it is now, 5 percent or 6 percent. This is a very, very difficult thing to overcome.

Now, another point I'm going to bring up, and it's under the basic heading of unfair practices. There has been a great deal of discussion about how the Japanese have come to the United States now and are manufacturing, or are going to be manufacturing, or whatever. I can't say too much about other industries, what they are doing with automobiles and what they are doing in this industry, that industry, but I can tell you one case: what they are doing in bearings in the United States, and I think you are going to find this very interesting. I call it the case of the Nippon miniature bearing, that came out of nowhere to dominate the miniature bearing industry worldwide.

Because certain markets in the United States insist upon American-made miniature precision bearings and because SKF was feeling the adverse effects of the Japanese bearing invasion, SKF sold its plant in Chatsworth, CA. This happened in the early 1960's, 1967, 1968. The rest of the miniature bearing industry was quite eager to learn what superhuman feats the Japanese would accomplish at Chatsworth that the Americans could not. How would the Japanese turn the Chatsworth plant into a viable entity when SKF couldn't? As I indicated before SKF was the world's largest, multinational, bearing conglomerate.

Well the answer is, Senator, the Japanese did it with remarkable ease. They shipped products manufactured in Japan and Singapore into the Chatsworth plant and out it came, shipped as "Made in the U.S.A."

To quote the ranking executive of NMB America, who was at my home for dinner with several witnesses present: "Our Chatsworth factory is only a washing machine; we make bearings so much cheaper in Japan and Singapore."

And this is contra to our law, our ASPA regulations; and these bearings were sent to DOD and there are lawsuits milling around the Government for years, and years, and years, I don't know where, and testimony of the employees that work there verifying this and attesting to it.

Senator D'Amato. Commissioner, have you ever heard of that allegation before?

Mr. Eckes. The one about labeling "Made in America"?

Senator D'Amato. Yes.

Mr. ECKES. Of course, it's made by a Japanese firm in the United States so they'd be entitled to it.

Senator D'AMATO. But if the bearing is made in Japan or Singapore, shipped to this country, and at its plant the main ingredient is stamped "Made in U.S.A.," is that legal?

Mr. ECKES. Customs has some rules on that. Were they in violation or conformance?

Mr. SPERRAZZA. Commissioner, it goes beyond Customs. What really is pertinent in this case is this: That the armed service procurement regulations particularly specify that miniature precision ball bearings, destined for defense applications, must be made in the United States of America because of the critical nature and the fact that during World War II we couldn't assemble our weapons.

Senator D'AMATO. We don't want to have to depend on, at a critical time, the shipments from Japan will not be interrupted and that we'd have a certain industrial capacity that is being used in the United States in these critical areas. What you suggested to the committee is that this is not the case, in this particular plant?

Mr. SPERRAZZA. That is correct.

Senator D'AMATO. Let me tell you, I happen to sit on the Defense Appropriations Subcommittee, and when we come back, before we come back, I will send a letter to the chairman of the subcommittee, Senator Stevens, and ask that he undertake an investigation. I'm going to ask the GAO to look at this and see whether or not these aspects of the law are being—they seem to be sometimes the only organization that gives us the legitimate count.

Mr. SPERRAZZA. I will try to find more information. I know suits have been brought about—filed with various departments of the Government.

Senator D'AMATO. Let's look into this particular aspect.

Mr. SPERRAZZA. The industry has really made an uproar about it, and I should be able to get a lot more for you on it.

Well, anyway, I'm going to summarize, basically, what I've said here and what I have to say, in three sentences as follows: The Japanese are not an antitrust society like ours, fearful of excesses of concentrated power and monopoly.

Senator D'AMATO. They didn't have Teddy Roosevelt. I wonder what Teddy Roosevelt would do today faced with this situation? Don't forget, he did say speak softly but carry a big stick.

Mr. SPERRAZZA. He'd make them talk.

Senator D'AMATO. What do you think, Commissioner?

Mr. ECKES. As a historian, I know that he was not opposed to the trusts altogether. He wanted to manage them. He didn't break them down quite the same way that Wilson and some of the other trustbusters socked it to them. He certainly got the label for being a business trustbuster. We did send them Douglas MacArthur, though, at the end of World War II and he broke them up briefly, didn't he?

Mr. SPERRAZZA. Yes; but they are all back together. The Japanese don't do things by contract. You discuss things. You don't have to have written—much on paper.

Senator D'AMATO. That's not a bad aspect.

Mr. SPERRAZZA. I don't say it's bad. Actually, Senator, I think that there is a great deal for us to learn here. The Japanese——

Senator D'Amato. We should maybe do some of the kinds of things to help our industry, is what you are saying, that have taken place, not only in Japan, but in other countries also. And here we are at the crossroads, some people indicating we should eliminate the Export-Import Bank, you know, because only four or five major industries—by the way, which happen to employ hundreds of thousands of people—are the so-called beneficiaries. So it's an easy area to demagog, name some people and say: Do away with the Eximbank because after all it's only helping Boeing, GE, and four or five other major exporters; and why should they provide them with low-interest loans to sell our manufactured goods abroad? But there's a mental set—they are employers.

Mr. Sperrazza. The point is if the Japanese system is determined by our people, or maybe it has some things for us to learn, our people should have the same rules and laws to operate under. They should not have advantages. In other words, our companies should be able to compete on the same basis. If it is determined that central planning, like an MITI is beneficial to our country, then both countries should have that system.

If it's determined that antitrust legislation is really in the interest of the people, then both countries should come under antitrust legislation—companies—not tie the American company's hands with antitrust and not the Japanese, not have national targets and goals for Japanese companies—nationally supported, and not ours. Because our companies will not be able to compete. It has to be equal stature and status in laws and regulations for all companies to compete fairly.

[The addendum to the statement of Mr. Sperrazza, together with an article and pertinent statistical material referred to for the hearing record, follows:]

Addendum to Statement of Augustine J. Sperrazza, Jr.

For over twenty years, the U.S. ball and roller bearing industry has been targeted by Japan for import penetration.

Concentrating their efforts in supplying the profitable high volume lines with minimal engineering and follow-up service, and using predatory pricing practices - they have attacked one product category after another.

.....In 1972, total U.S. supply (shipments plus imports) of 9MM to 30MM radial bearings was 95.9 million units, of which 43.7 million units or 45.6% were imported. Ten years later in 1982, of 129.5 million units, 78.8 million or 60.8% were imported - a 15% increase in market share at a time when total market consumption was dropping.

In 1983, Japan's share of U.S. imports was 43% and their satellite Singapore 6%, (West Germany - 17% and Canada - 13% are the other major competitors) but in the 9MM to 30MM radial bearings, 81% of all imported ball bearings came from Singapore and Japan.

The average price per unit in 1982 of a 9-30MM bearing produced in the U.S. was $1.58 - from Japan $.63 (40% of U.S. price) and from Singapore $.77 (49% of U.S. price).

The industry segment now faces a 15% market share increase for imports, of which 81% are from Japan/Singapore selling at 40% to 50% of the U.S. price.

The same pattern has occurred in other segments - before 1972 in 0-9MM O.D. precision radial bearings. More recently tapered roller bearings are a market target with Japanese product selling at 38% of U.S. prices ($6.10 to $16.53).

.....Between 1972 and 1982, employment in the ball and roller bearing industry has declined by 20% and at the same time dollar imports as a percentage of U.S. consumption has increased from 9.6% in 1972 to 12.4% in 1982 (measured in units, this penetration is even higher) compounding the cyclical nature of the 3 billion dollar bearing industry and its over 40,000 workers.

.....The motor vehicle industry accounts for almost 1/3 of ball and roller bearing consumption. U.S. production in 1972 was 11,311,000 vehicles - Japan produced 6,294,000. In 1982, U.S. production was 6,986,000 to Japan's 10,732,000. In addition to the loss of this OEM business, since Japanese cars use Japanese bearings, these vehicles increase the sale of Japanese produced bearings to distributors servicing the replacement market.

The same trend occurs as other industrial products such as machine tools, where approximately 20% of U.S. consumption are produced in Japan.

This is resulting in a significant change in the bearing replacement business where bearing distributors have traditionally supported U.S. manufacturers by selective distribution favoring their product. In the case of some U.S. bearing companies, almost half of their sales occur in the replacement market.

.....Free world trade in bearings by leading manufacturing countries tripled during the last ten years, exceeding $3.2 billion in 1981. However, the U.S. share of the world export market dropped from 22% in 1967 to under 12% in 1981.

This further compounds the industry's problem as domestic demands are lost to foreign imports and more motor vehicles and other industrial products are produced abroad. Japanese import only by license and permits only limited competition with Japanese made bearings with the result that their imports of U.S. produced products are minimal - less than 4% of the U.S. ball bearing exports.

.....Of the 83 companies in the ball and roller bearing industry, many concentrate in a specialized range of bearing products and consequently have a narrow range of consumer markets.

This makes them particularly vulnerable to an attack on their specialty resulting in further specialization, closing or sale.

The recent trend to "outsourcing" (having product made abroad to company specifications for sale in the U.S.) further reduces U.S. production capability.

New Hampshire Ball Bearings was purchased by Minebea of Japan this Spring and Federal Mogul has just announced a joint venture with NTN of Japan leading to a takeover and probable sale of their roller bearing plants. Textron, Inc. has placed their Fafnir Division on the market.
These events, plus the setting up of limited product line high volume production plants in the U.S. by Japanese manufacturers, further extend the Japanese control over the u.S. bearing industry.

The ball and roller bearing industry is vital to both the U.S. national security and the maintenance of our general industrial economy. At the present rate of change, U.S. control over this capability is disappearing at an alarming rate.
A competitive assessment of the ball and roller bearing industry published by the International Trade Administration in February 1985 covers this subject in significant depth and this together with the 1983 Bureau of Census Report and Antifriction Bearing Manufacturers Association estimate of 1984 shipments (the 1984 Bureau of Census Report should be available shortly) are attached for reference.

Footnote:

Statistics on the U.S. ball and roller bearings industry (anti-friction bearings and components) are maintained by the U.S. Department of Commerce (Bureau of Census) on an annual basis and by the Anti-Friction Bearings Manufacturing Association on a monthly, quarterly and yearly basis for their membership.
These include a summary of imports and exports by units and dollars and industry shipments, which together with imports less exports, provide a measure of U.S. market consumption.
These statistics are broken down by Standard Industrial Classification (SIC) product code and sub categories. Anti-friction bearings and components are

(SIC) code 3562.

This detailed statistical data, together with the fact that dimension and tolerance standards have been developed by the engineering committees of the Anti-Friction Bearings Manufacturers Association closely related to the ISO (International Standards Association) which make bearings a relatively interchangeable product, make the trends in the bearing industry relatively easy to monitor and to target the U.S. market.

The New York Times Magazine FEBRUARY 6, 1983

Weinberger on the Ramparts

BY THEODORE H. WHITE

Caspar Willard Weinberger, age 65, a veteran of the Good War, 15th Secretary of Defense, is a man obsessed with his mission. His mission, as he sees it, is twofold: First, to prepare the United States to defend itself immediately, in tomorrow's possible war; and, second, simultaneously, to commission and prepare the weapons for the wars of the 1990's. The cost of this dual purpose is absolutely staggering.

CASPAR WILLARD WEINBERGER, AGE 65, A veteran of the Good War, 15th Secretary of Defense, is a man obsessed with his mission.

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It is easy to see Weinberger as Washington's most controversial figure, for his problems are more than enormous and his solutions bewilder the nation. But his mission is to drive his overriding purpose — "readiness" — through a recalcitrant Congress, a divided White House, a hostile press and a major depression. In this struggle, the cheerful, ever-humorous Caspar Weinberger has been transformed into a gaunt, somewhat lonely man, driving himself to the edge of exhaustion and frequently over that edge.

With a man so straightforward in a situation so complicated, it may be necessary to simplify his story, perhaps distorting it. For as one starts to probe the problems of an old college classmate, after decades of friendship and confidence, one is led on to more than a personality study. One is led, inevitably, to the problems that beset him. Here is a man demanding between a quarter and a third of the entire national budget; struggling to master the largest bureaucracy in the United States (2.1 million men and women at arms, almost a million civilian employees); confronted with bizarre techniques that prescribe the reflexes of slaughter but not its goals. Events overtake the personal story: the critical arms negotiations with the Russians have stalled; America's arms-control team is in turmoil; public relations people are rushed to defend a position that all too many Europeans find incomprehensible, and Russian rearmament, despite all Mr. Andropov says, goes on with no sign of slackening. Weinberger stands caught in the trap of history, squeezed by new forces reshaping politics abroad as well as at home.

So it is very important to start at the beginnings, of the man and the problem.

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One begins, thus, with a boy invited to Harvard on scholarship from San Francisco's Polytechnic High School, a stranger in a New England university. At Harvard, as he would always, Cap Weinberger "made" it — elected in his junior year (1937) to one of the highest honors his fellow undergraduates could give him — the presidency of the Harvard Crimson.

Franklin D. Roosevelt had once held that same honor; and Weinberger,

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Theodore H. White's most recent book is "America in Search of Itself."

Much of the Secretary's time is taken up with prescribed meetings. Here he confers at the Pentagon with some members of the Joint Chiefs of Staff and aides. From left, in front row: Gen. Charles A. Gabriel, Air Force Chief of Staff; Mr. Weinberger; Gen. Robert H. Barrow, Commandant of the Marine Corps. In back: Col. George A. Joulwan, U.S. Army, executive assistant to the Chairman of the Joint Chiefs, and Maj. Gen. Carl R. Smith, U.S.A.F., military assistant to the Secretary.

always as much a Boy Scout as a scholar (he graduated magna cum laude), studied at the old Yard when Roosevelt launched the first "readiness" program for the Good War — the naval rearmament program of 1934. That program laid the keels of the flattops that won the battle of Midway eight years later and turned the tide of war. Weinberger, a major in government, was already a committed Anglophile, reading away in English history, in Siegfried Sassoon's war memoirs, enjoying Shakespeare, and above all: "I was a passionate believer in Winston Churchill," he says. "Civilization itself was at stake." Other undergraduates might chant, as so many of us did, "Scholarships not Battleships," but Weinberger was a true believer in the threat.

Cap Weinberger, son of a lawyer, went on to Harvard's Law School and, while there, tried to enlist in the Royal Canadian Air Force. Rejected for faulty depth perception ("They told me if I tried to land a plane I'd land it 50 feet above the runway"), he earned his law degree. Then he volunteered as a private in the United States infantry. "That," he says, in a homely phrase of another time, "seemed to me to be honorable service."

With basic training, his memories begin to bite, reaching the intensity that now characterizes the once smiling young man. It was September 1941: "We did our basic with wooden rifles. Then Springfield rifles of World War I. No ammunition. They gave me a World War I helmet. We had no cadres, but we had time to form them. We were lucky that time; we had time to get ready. This time we may not be so lucky, we have to be ready *now*." It is the recall of a man a full generation removed from the present generation, with its different vision of America.

Having passed through Officers Candidate School at Fort Benning, Ga., Weinberger put in to be sent to England to fight Hitler. Whereupon he was shipped to the Southwest Pacific — on a slow convoy where he met Jane Dalton, a nurse, and, on arriving in Australia, in August 1942, married her. As a second lieutenant in command of a platoon, and a crack shot, he was ordered with the 41st Infantry Division to New Guinea for the attack on Buna. Leading combat patrols, he made captain and was preparing to take his company on for the assault on Biak when it was discovered he had both a law degree and newspaper experience. Over his protest, he was shipped to the staff of

Gen. Douglas MacArthur. Weinberger emerged from the war with both a Bronze Star and an everlasting admiration for MacArthur.

All this experience must be cranked into the world-view of the present Secretary of Defense: the view of an honors graduate in government, a platoon leader, a MacArthur intelligence-staff officer — and a man who believes in "projections of power." "I was defending California when I fought in New Guinea," he says. "It was better to defend California there than in Oregon."

But the young Weinberger had always been a Republican from student days. He had bet on Landon to beat Roosevelt in 1936. "Now we will hear from Weinberger, our Republican," his Harvard professor would say in a seminar overwhelmingly Democratic. Coming home from the war to San Francisco, he first practiced law, then led a revolt of liberal Republicans in the Bay area that brought him to the California Assembly, then to Gov. Ronald Reagan's notice and appointment as the state's Director of Finance. From Reagan's service he passed to Washington to serve Richard Nixon, first as chairman of the Federal Trade Commission, then as Director of the Office of Management and Budget, then as Secretary of Health, Education and Welfare — a skillful and charming politician, a fountain of quips and anecdotes.

There is a nostalgic perplexity in watching an old friend evolve into the grim chief of the United States armed forces embattled at home and abroad.

Caspar Weinberger believes today that the threat of the Soviet Union is as great as Hitler's, so great that every consideration of domestic politics must be subordinated to it. "If I have too little ready when the time comes," he says, "there won't be time to say 'too late.' "

Weinberger does not want American soldiers to train with wooden guns, with no ammunition. But, most importantly, Weinberger believes his mission is to spend and spend, whatever is necessary, to close the "window of vulnerability," the gap between our present strength and what we must have by the 90's.

Which brings us to another beginning.

* * *

The other beginning must start with the development of the technology of mass slaughter.

Our weapons technology has usually been better than the Russians' — except that in one most important field of challenge, nuclear interchange, the accuracy of missiles, the Russians have recently overtaken and surpassed us. Always, during the long race, the Russians relied on the throw weight, the nuclear megatonnage, of their missiles — mass destruction delivered by heavy, clumsy, devastating nuclear warheads. They now outweigh us in such megatonnage by 5,000 to 3,000.

America has relied, up to now, on superior accuracy, rifleman accuracy. But we telemeter and watch Russian missile tests constantly — and in the last few years the Russians have brought their intercontinental missile target accuracy to a C.E.P. (Circular Error Probable) of 150 meters, or about 450 feet. That means that a Russian missile hurled from Siberia and aimed at New York's Central Park can probably hit it. This accuracy, coupled with their throw weight, undermines one of the underlying assumptions of American strategy. Given such accuracy and the superior megatonnage of their warheads, the Russians can "take out" America's 1,049 land-based missile launching sites at one strike. If you are Gen. Vladimir F. Tolubko, commander of the Russian Strategic Rocket Forces, and assign three warheads to each of the 1,049 American launching sites, and if — *an important if* — the Russian political leadership approves, then a single first-strike salvo permits the Russian Strategic Rocket Forces to wipe out one of the vital elements of American retaliatory strategy, an entire leg of the famous Triad.

This new accuracy of Russia's missile force rouses Weinberger's anger. He must live with it; and redress it; is not sure how; nor will Congress accept any of his solutions. Central to his thinking is the need to develop an American missile, more accurate than and as heavy as the Russian SS-18 — the so-called American MX.

FROM THIS RACE FOR ACCURACY COMES ANother train of his thinking: that there must be a shut-off of American technology to the Soviet Union. What exasperates Weinberger when accuracy is mentioned is the fact that the microscopic ball-bearings, on which the gimbals of Russian missile-guidance systems turn, are stolen, or leached, from American technology. Most of these tiny ball-bearings (thousands of which can fit in one cup) are made in New England. The trick lies in the grinding tools that machine them to specification. Americans sold those grinding machines to the Russians, or let them slip out. And now the new Russian accuracy presumably holds all our bases in pawn. At this nightmare, Weinberger grows bitter; he insists there must be a shutdown as stringent as possible of American technological flow to Russia. But "people don't listen to me," he complains. "They don't want to listen."

It was this condition of Russian strategic development, as well as others almost as morbid, that Weinberger discovered shortly after he received his telephone call, on Dec. 1, 1980, from President-elect Reagan. ("I'm going to spoil it all for you," said Reagan. "I want you to be Secretary of Defense.") Several visits with Reagan followed, as Weinberger floundered between his comfortable life as a Bechtel Group executive and the call of the next President who wanted, above all, military buildup, and resolve.

Then, on to Washington, where, from Jan. 1, 1981, Weinberger was briefed daily. He had left Washington in 1975 as a cabinet member acquainted with Russian potential. But now, says he, "I was astounded. Their buildup had gone so far and so fast and all of it was in offensive, not defensive, weapons. . . . It was like running down a hill trying to catch up with a long, long runaway train. You come into this office and on your first day you find your in-basket full of decisions you have to make *today*. And, on top of this, you have to impose a new long-range policy, and people won't listen to you."

Out of his re-examination came, then, a figure of $1,600 billion (!) to be spent in five years to bring America into parity (*not*, says Weinberger, *superiority*) with the Soviet Union's arms capability. Whether the Russians, indeed, are superior in arms to America at the moment is a matter of intense debate among Washington defense experts. But Weinberger's figure became the operational one. Such a figure had never before been heard in American politics; such a figure brings the Secretary of Defense up against the enduring question all previous Secretaries have had to face: How much is enough?

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With this question we come to the last of the beginnings.

Between 1945 (when American armed forces dominated the world) and the stewardship of Robert S. McNamara in 1961, American armed power had dwindled year by year. But American policy still hoped to prevail, clinging to the John Foster Dulles doctrine of "massive retaliation," translated as "step on my toe and I'll bash in your skull." At that time we had both the throw weight and the delivery systems. But McNamara changed the savage doctrine of massive retaliation into the more civilized one of "flexible response." By this doctrine McNamara and Kennedy played the 1962 Cuban missile crisis, knowing their hand held 400 intercontinental delivery systems as against what they believed to be a Russian total of 100. (Further intelligence has since told us that the Russians held probably only 10 operational ICBM's.) Khrushchev backed down because he had to.

But Khrushchev's backdown was also the beginning of another chapter, for the Russians set out on a military rearmament program matched in urgency only by that of Hitler in 1933-38, and much longer lasting and more shrewdly conceived. They would never again play from a bluff that could be called with impunity.

We face today the end result of that Russian decision. The Russians have 2,693 intercontinental delivery vehicles (chiefly in heavy-loaded ICBM's) as against America's 1,866 delivery vehicles. Their navy has launched its first two modern aircraft carriers and more are under way. Their military personnel numbers 4.3 million, backed by a conscription system that gives them 8.5 million ready reserves, while America has 2.1 million men and women under arms, backed only by a questionable 800,000 reserves. Of their weaponry, the most menacing are missiles — their progress in missiles has been spectacular. According to Richard N. Perle, Assistant Secretary of Defense for international security policy, in the 10 years of so-called detente, the Russians deployed seven new missile systems, while we deployed two. A bewildering array of Soviet missiles of all ages, ranges, weights now confronts American planners, with four new Russian systems coming on. Of all these, American policy is disturbed chiefly by two: the heavy SS-18 (300 or more, most with 10 warheads) that can reach anywhere in America, and the newly developed mobile SS-20 intermediate-range missile, with three warheads, targeted mainly on Western Europe.

Through all such figures on the equations of war one must run a divisor of unknowns. Russian strength in missilery or on the ground must be divided between their Asian and European borders. They have worries that do not burden us. Another divisor must be of the reliability both of their own troops and those of their allies. Will the Moslems of Central Asia, a growing element of their peoples, fight or flee when called on? Will the Warsaw Pact allies of Eastern Europe fight with, or rise against, the Russians when propelled into action? How will the Poles go? The East Germans? The Czechoslovaks? It is possible to believe that a Russian strike in Central Europe, if it can be stopped for 10 days, can be crushed like an eggshell. How does one weigh the tinder of politics against the SS-20?

Weinberger ignores such political questions. His job is to focus on Soviet capability, not what lies in the minds of their peoples. Therefore, by May 1982, the Weinberger Guidance Directive of the Pentagon to its armed structures: The policy is to achieve, first, a state of readiness sufficient to repel any Russian aggression against NATO, then to modernize and achieve a secure strategic nuclear capacity sufficient to fight a "protracted war"; then to fight in at least four major areas of contention, with a "projection of power" that will defend not chiefly our own American interests but those of our irritable and essential allies across the seas.

On the cost — $1,600 billion — Weinberger may give an inch — but no more. Somewhat proud of the nickname ("Cap the Knife") he earned as Nixon's budget director, he says: "I can cut this budget easily. I can decommission two divisions. I can wipe out two aircraft carriers. It's easy to cut the defense budget. But when the time comes when we need them, it will cost us a lot more."

This stubbornness has cost Weinberger the fragile margin of support for his critical strategic programs. His political base, until this year, has been the traditional national defense "consensus" in Congress; that has been chipped away now to the hard core. His base today lies at the White House, resting on two men — Ronald Reagan and William P. Clark of the National Security Council; and, even at the White House, Weinberger is under attack by several who see his inflexibility, at this time of political distress, as a gross liability — most notably James A. Baker 3d, chief of staff, and David A. Stockman, budget director. The divided Reagan White House has been debating the military budget for over a year and a half — since August 1981 — and up until last month Weinberger, with the total support of President Reagan, has won hands down. Last month, Weinberger yielded slightly. Cutting $11.3 billion, or 4 percent from his next year's projections, he offered to settle for an appropriation of $273.4 billion for fiscal 1984 — $41.9 billion more than the $231.5 billion Congress appropriated last year. In his State of the Union

Message, Reagan obliquely but definitely backed Weinberger once again. There would be a 3.4 percent cut in the five-year program. But no more. The military budget must rise; as much else as possible would be frozen.

Weinberger's problem cannot be cut off from that of President Reagan. He can be called Mr. Straight Arrow. Snapped from the bow of the President, he cannot be deflected. Neither forbidding as was McNamara, nor hysterical as was James V. Forrestal, nor superbly deft as was Clark M. Clifford, nor technically dazzling as was Harold Brown among his predecessors. Weinberger is loyal; being loyal he has steamed on straight course directly into the hurricane that Reagan's politics and economics have brought about. The cost of this straight course — equivalence with the Russians in arms, now and in the 1990's — has brought him under such partisan scrutiny by a disturbed Congress as no other Secretary has faced before. Nor will 4 percent cut from his rising demand satisfy Congress. A depression of today's tragic dimensions has not been seen since the end of World War II; and the projected $200 billion-a-year deficit crushes planning of the future. The President has all but given up on the deficit; it stretches on in huge numbers to some date he cannot set. But he will not give up on the cost of defense. Yet defense demands a rising budget at a time when most opposition Democrats, and many moderate Republicans, believe the American system, in this year of crisis, cannot satisfy both what the technologies of defense require and the requirements of the poor and the unemployed.

How much for guns, how much for butter?

That question pushes the story of Weinberger's struggle into the web of numbers.

THE NUMBERS HEADQUARTERS OF ANY ADministration is the Office of Management and Budget, once directed by Weinberger and now by David Stockman, both Reagan favorites. The fact that O.M.B. is so sharply critical of Weinberger and his Pentagon is of large significance.

An overview of O.M.B. figures gives a quicker look at the change in Federal responsibilities over the last 40 years than any other set of figures. And they define, quite simply, the historic trap of President Reagan and Weinberger.

Of all the O.M.B. sets of figures, the most enlightening, perhaps, are those that break down 40 years of the national budget. Back in 1945, when America was fighting World War II, 88 percent of the entire budget went to defense. In the aftermath of the Korean War, Eisenhower held the figure to an average of 56.5 percent during his eight years in office. Kennedy dropped it to an average of 46.2 percent; under Nixon that percentage dropped to 34.6. Under Carter the figure dropped to an average of 23.8 percent.

It is very difficult to make such figures leap and dance. But, when set in context, they give the flavor of change in American life. In the Eisenhower years, when defense demanded and received 58.5 percent of all the nation's expenses, the country's social programs consumed an average of 22.8 percent of the nation's budget. During the Nixon years (to pick a date, let us say fiscal 1971), the two sets of expenditures crossed — defense was down to 36.1 percent, while human welfare programs (chiefly entitlements and Social Security) took 42 percent. Since then the Federal expenditure on social programs has so far outrun the expenditures on defense as to startle. In the last year of the Carter Administration, social programs took 52 percent of all Federal expenditures while defense took 23.6 percent. In a generation the proportions had reversed themselves: from two to one, defense over social, in the Eisenhower years, to two to one, social over defense, in Carter's years.

These are the figures that illuminate the controversy. "They have to choose," said a general at the Strategic Air Command in Omaha, "between national security and Social Security." Some at the O.M.B. can make the clash even more poignant. "We have," said one spokesman, "three main components of the national budget — defense, human resources and interest on the national debt. That takes, this year, over 90 percent of our expenses. Which leaves only 7.2 percent for all the rest of the United States Government." All the rest consists of law and justice; of environment and the Coast Guard; of arts, medicine; farm price supports; shipbuilding subsidies; mass transit; aviation regulation — all those Federal commitments that make America still a pleasant country in which to live.

"Put it this way," the spokesman continued. "The clash over resources comes down to a choice between the armed services and the old folks, or between free school lunches and troops in Korea." Social Security retirement benefits and Medicare together consume today as much of the budget as the armed services. These are the programs that old people have come to depend on; they feel they have a contract with the Government and it must be honored. Somewhere, as one pokes through the quarrel between the "moralists" and the "realists," one comes to the grim truth facing a responsible government: Somehow defense expenditures *must* go up and swelling social entitlements *must* be restrained. But these realities have to be massaged through the world of politics.

REAGAN CAMPAIGNED ON the promise that America would regain its military equivalence to Russia; he campaigned on other large themes — the cutting of taxes, the staying of inflation, the tantalizing theory that cutting taxes would provoke investment. But the horrors of an unbalanced budget overlay all promises. He has kept every one of his promises, a rare event in American politics — except that, so far, his governing theories simply have not worked and the nation is staggering through its worst depression in 50 years. There are now less than two years to make Reagan's theories work.

Well before the election of 1982, the military budget had become the favorite target of Congressional attack. With the election, however, not only did the military budget come under redoubled scrutiny but so did its personal sponsor, Caspar Weinberger. Was he smart and stubborn, or simply stubborn and insensitive?

To this question we must go now, but, first, one should describe the mentality of the Pentagon's leaders and explain their apparent inflexibility to all the calls of politics and compromise.

One quotes from random conversations:

The Secretary of Defense himself: "You're making a terrible mistake if you try to adjust your defense budget to food stamps, harbor dredging and highways. It's the threat that makes the budget. You've got to build your budget on the Russian budget."

From his recent Deputy Secretary, Frank C. Carlucci: "We are not responsible for the budget deficit. You shouldn't measure defense against social programs. The starting point is to measure it against the threat."

From his Under Secretary of Defense for Policy, Fred C. Iklé: "We're O.K. now on readiness. The critical things are the long-range programs. The trouble won't happen on Weinberger's watch, but in the next fellow's."

Those who oppose Weinberger are more discreet. Of three previous Secretaries of Defense to whom I spoke, none would permit attribution for direct quotation, sheltering behind the uncoded gentleman's agreement that one does not knock a successor in public.

From ex-Secretary No.1: "The trouble goes back to Reagan. His attitude to the Russians created this climate — he called them liars, cheats, thieves. Anybody can quarrel with the Soviets; a President's job is to find means of getting along with them. . . . I remember Churchill saying that if it comes to a second or third strike, all the bombs will do is bounce around in the rubble. Weinberger's done a good job on conventional forces. I support that. But he's been taken in by the Pentagon, the generals are in Beulah land — anything they want he gives them."

From ex-Secretary No.2: "As a nation we can afford anything. Security is first priority. But you have to start with foreign policy and then you make defense strategy, and then you get down to force budgets. . . . Cappy's like a kid going into F.A.O. Schwarz and buying all the toys on the shelf. The services aren't being managed."

From ex-Secretary No.3: "You can be Secretary of Defense in two ways. You can dig into the department and learn about weapons systems and management changes. Or you can rouse the public, educate the people. Cappy's done well on conventional forces. I give him credit for that. But all his energy has gone into this Churchillian rallying of the American people. He hasn't had the energy to learn about weapons systems or strategy."

From Senator Daniel P. Moynihan of New York, not too timid to be quoted, a member of the Senate Select Committee on Intelligence and one of the first to sound the alarm on the Russian buildup: "I've known Cap Weinberger for 14 years. He's a man of peace. You could hardly encounter a person with less aggression, less anger, less malevolence. But he is perfectly capable of having a wrong perspective on the enormity of nuclear weapons — and perfectly capable of a competitive view of who's ahead, who's behind and using what he's got. The Russian buildup is real. But the problem with the MX is it's a first-strike weapon. Cap inherited it — and he hasn't stopped to ask the military what they want to do with it. . . . His budget is plagued with implausibility."

Weinberger is, thus, pivotal in the debates that will engage the new 98th Congress. Torn by old politics; concerned by the rising number of jobless; certain that the sum of $231.5 billion voted for defense (in December) will rise even more sharply in the near future, or what the Pentagon calls the "out years"; and absolutely stunned by deficit projections that stupefy the imagination — Congress is in a state of disoriented rebellion against a military system that seems out of control.

Which leads us to the management of the Pentagon, and Weinberger's role.

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The Pentagon — overcrowded, overstaffed, overcommitteed — must be seen as a continuum of ideas and programs so interwoven by esoteric technologies and career ambitions that it is difficult to discern where, in the passage of time, one Secretary's influence began and another Secretary's initiative changed its directions.

Programs have a life of their own and individual Secretaries of Defense can only nourish or slow them. In 1962, Robert McNamara introduced the idea of STRICOM, a rapidly moving strike command that could fight anywhere from the Arctic to the tropical jungle. By 1982, 20 years later, the same idea had been lifted to the concept of Rapid Deployment Joint Task Force. Then, finally, by Weinberger, to a new Central Command that can deploy strike forces over the troubled third world, and the blistering Middle East. But it is still based at the old STRICOM headquarters: MacDill Air Force Base in Florida.

In 1962, a young physicist at the Pentagon, Harold Brown, later to become a Secretary of Defense, was spending much of his thinking on a concept called Skybolt, an airborne strategic weapon that could be launched from a plane flying off the northern frontier of Russia. Skybolt was technically too soon for its time. In December 1982, finally, 20 years later, the concept became operational in an air-launching cruise missile squadron based at Griffiss Air Force Base in New York.

The Pentagon, a vast limestone and concrete fortress of bureaucrats on the south bank of the Potomac, sprawls over its 34 acres as if on an island of its own, detached from the politics and the intellectual flow of American life. Time was, in the Good War, that Roosevelt pumped his politics into it; and the senior minds of academia not only cooperated with defense but propelled the weapons systems with ideas like nuclear fission, radar, operational analysis. That cooperation came to an end with the Vietnam War, when academia distanced itself as if the Department of Defense was a colony of lepers. Even the august National Academy of Sciences separated itself, refusing to let defense scientists hold their conferences at the academy's summer retreat in Wood's Hole, Mass. The hostility of academia has, lately, changed — partly because universities, pinched for money, need defense research funds and partly because Russia's buildup frightens academics, too. But in the period of disassociation, the Pentagon came largely to incubate its own technical innovations in its own laboratories, and its chief outside source of ideas was the arms makers of the military-industrial complex. A new Secretary of Defense, thus, must choose from programs already on the shelf. And each choice involves billions of dollars, all taken from a national budget that must choose between programs for heart disease and kidney dialysis or a new Aegis cruiser ([illegible] million each.)

In this continuum of shelf ideas, one must make a sharp distinction between administration and management, for the two are entirely different. Administration must make events march on time, have the right people in the right places, get maximum results at minimum cost. Management is different: It must choose directions, decide on policies, set the targets, not for the day but for the decade.

The charge against Weinberger in the lobbies of Congress is that he does not manage. "That hurts," he says. His defense is best made by those who serve him at the Pentagon, for Weinberger is an expert administrator.

So then, his credits must come first, and must start with the most important but unglamorous of his achievements, all of which flow from his fundamental concept of readiness.

"Weinberger," says the Chairman of the Joint Chiefs of Staff, Gen. John W. Vessey Jr., "has paid attention to people. The first and most important thing is people."

The United States armed forces as they stand are arguably ready today, which they were not three years ago. The hemorrhage of officers and noncommissioned personnel, the technicians who service the weird weapons of our times, has stopped. Re-enlistments are the highest in 19 years because pay is up by 14 percent a year and because the depression makes the service attractive. Quality has also gone up — [illegible] percent of new recruits are high-school graduates, an educational level higher than that of the general population. This achievement soaks up a huge part of the Pentagon budget, of which half goes simply to pay people, including those retired. The Russians spend only 14 percent of their armed-forces budget on people — they conscript.

"We were a hollow army," says the Under Secretary, Fred Iklé. Iklé is an unabashed hawk, an acknowledged first-rank member of Washington's college of cardinals of defense intellectuals; he concentrates on policy, while Weinberger and Carlucci have concentrated on administration. "Weinberger's priority when he came in was to spread money all over the place," says Iklé frankly. "Troops in Korea had only 20 days of ammunition to back them up, and it would take 53 days to resupply them if combat broke out. That's been corrected." American pilots were, by budget restraint and the cost of gasoline, reduced in [illegible] to only 13 hours of air exercise a month. Flight time is costly but crucial. The superiority of the Army Air Corps over the Luftwaffe in World War II became conclusive when Hitler ran out of gasoline to give his recruits enough air training to counter our veterans in combat. But the Israelis, whose lives depend on readiness, give their pilots 25 hours of air exercise a month. By 1984, the Weinberger budget hopes to give our pilots 20 hours of flight training monthly.

There are other credits.

One example: The Gulf of Sidra engagement, the only shooting action of the last two years. Two full weeks of diplomatic preparation preceded two minutes of action. All Arab countries adjacent to the domain of the Libyan fanatic Muammar el-Qaddafi were visited by Weinberger's alter ego, Carlucci, to be told in advance that the Gulf of Sidra was no longer to be considered Qaddafi's pond; our Sixth Fleet would sail where it wanted in international waters. We planned not to provoke but to establish international law in the Mediterranean. And if, in turn, we were provoked in the Gulf of Sidra, our airmen would shoot back. So it happened: all the diplomatic niceties meticulously performed, all the legal rules of engagement neatly laid down for our pilots by the Pentagon's counsel. And in two minutes it was over, two Libyan planes destroyed and the presence of an American fleet in the Mediterranean confirmed as much by muscle as by law.

But such administrative achievements are at once accepted and ignored in Washington. Over the horizon gather clouds of the second war, the nuclear war of the future. Readiness for that war involves the modernization of our strategic arms, and the projection of power where it may be needed 10 years hence. Both the costs and the moral horror at preparing for the cataclysm have provoked the revolt against Weinberger.

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The lesser quarrels in Defense turn on the instruments of conventional war.

All these can be resolved rationally, even if to Weinberger's distress. Do we or do we not need two more nuclear aircraft-carrier task forces? Is the new M-1 tank program (ultimate cost: $19.5 billion) sensible? Is the Bradley troop carrier worth so much more than the old six-by-sixes that carried American soldiers to the combat front in World War II? On such instruments Congress and civilians must listen to the men who use the tools, but they can argue. Stretchouts of time can be entertained, and the armed forces compelled to choose priorities.

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But it is over the instruments of the "strategic war" that the debate about Weinberger rages most furiously. Many of the most ardent of Washington's patriots and defense experts question Weinberger's understanding of them. Altogether such instruments and the research on them today take only 15 percent of the Defense budget. But their cost will irresistibly soar . . . and they are the ones that torment constience. These strategic instruments must fight the war that can reduce the world to rubble; yet, if they are not ready in time to retaliate, the only alternative may be to yield. It is the strategic system that involves policy, choices, projections.

And it is here, because "strategic programs" mean doom or survival, that the great debate sharpens on Weinberger. How reliable is his judgment? "At O.M.B.," said a friend who knew him there, "Cap knew enough to know that the economists didn't know. But in technology the scientists have got to know, have got to be right. The guys in here always tell you they can do it. But the results don't bear them out."

In dividing his time between his administrative duties, his Paul Revere role, and judgment on strategic technologies, Weinberger has let himself be swamped. The Pentagon has been his client; the public the jury, and, in defending his client, he has been overwhelmed. He rises at 5:30 in the morning, leaves his office at 7 in the evening, his briefcase stuffed. Twelve to 14 routine appointments crowd his day. Meetings set by tradition demand his time each week, with the Joint Chiefs, the Secretary of State, the Vice President, the National Security Council. The White House is on him, daily. He must attend four NATO meetings a year, two meetings with Korea. Almost twice a month he must prepare for an appearance before one Congressional committee or another ("That's like cramming overnight for a doctoral exam," he says). He finds it difficult to say no to old friends, to erratic speech invitations across the country, to the exhortation role. He is left with not enough time to think forward.

Thus, Weinberger approached the climax of his strategic policies in early December with his long-range programs all but won — all except the "dense pack"-MX basing scheme. But, in the previous three weeks, he had been on the exhortation rounds in Southeast Asia, in Australia, in New Zealand, the week before he had been in Brussels (for NATO) and in Yugoslavia.

All that year he had had one week of vacation in Maine and two weekends. Exhausted, he spent one day in the hospital with a touch of flu. And then approached Congress, pleading the case he had pleaded to monotony over the previous two years. But Congress had returned to Washington after an unsettling midterm election; it did not want to hear a lawyer's brief; it wanted to hear the decision of a judge who stood between what domestic politics required and the thrust of the Pentagon.

Now, Congress was to be asked to accept a new MX basing program whose ultimate cost would be, by the President's guess, $26 billion. The resentment and confusion of Congress came to its point at the keystone of the strategic planning for the '90's — the MX, Missile Experimental. In the words of John Vessey, "MX stood up like a lightning rod. It took all the heat."

It also brought down the thunder of a Congress too confused to approve any course for an unthinkable war. And when Congress did, inevitably, break off from the dense-pack scheme, it broke the spearhead of the lance that Weinberger had been so long in preparing. And more: What was broken was the American politics of consensus on defense. What has been provoked is this generation's re-examination of the defense posture of the United States in a world where freedom depends on our muscle. What are to be the terms of nuclear engagement?

Is MX essential to those terms? Was dense pack?

* * *

MX is a long-lived child of the continuum of technology that urges the Pentagon on with its weaponry. It was conceived as long ago as 1974 and molded over the years to its present design. It promises accuracy — twice as much as our present missiles, accuracy within 100 meters, or 300 feet, of target. It promises, with its 10 or more warheads, weight sufficient to crush the deep-hardened Russian silos whose missiles are targeted on us. But its final design — a 96-ton monster cannister — was set by the strictures of the SALT treaties that stipulated its upper limit and range. Smaller, equally effective, equally accurate weapons can be designed — but at substantially greater cost. One such design, the D-5, is already on the way, to be installed by 1989 in the new Trident II submarine.

There is a quality of insanity to all talk about missiles of the future. Does it matter who is left alive in the ruins, and whose ruins may still cradle civilization? Yet within this insanity responsible men must still think soberly about the calculus of destruction. American policy has long planned, if war comes, to hit Russian strategic bases — not to engage in "city-busting" or civilian holocaust. But if a Russian first strike can now wipe out our bases, then our response must provide a counterthreat of holocaust, inviting counter-holocaust.

To preserve the balance of terror, new, more accurate and heavier missiles are needed to catch up with the Russians; silos must be hardened; and missiles based.

Basing, then, is the first military political problem. And that touches nerves until now untwinged. So cumbersome and heavy a weapon as the MX cannot be carted around easily. It must have a launching site. Some 16, or 20, or 34 basing schemes have been proposed. The final scheme of the Carter Administration was the notorious "race-track" idea, the mad shell game that would shuttle the MX around on flatbed rail wagons over thousands of miles of the western states. This scheme was rejected by the incoming Reagan Administration as silly and absurdly expensive, instead Reagan and Weinberger offered another rather sensible plan — an interim plan until a final one could be worked out. This was to unpack 30 or 40 old silos scattered through the western states, some of which still hold obsolete liquid-fueled Titans, and restock them with the new MX missiles until a final home could be found.

At which point politics intervened. "Congress didn't just say no," said Carlucci, the former Deputy Secretary. "They said, 'Hell, no!' " With Russian targeting capability, no state wanted a prime missile target in its backyard. Among the most reluctant to go along were several of Reagan's great loyalists in the Senate, particularly those of threatened western states where the slim Republican Senate majority rests. Utah (Jake Garn and Orrin G. Hatch), Nevada (Paul Laxalt), other states whose geography and sparse population invited sitings would not bear the responsibility of becoming the prime targets of a Russian first strike. Hell, no, thus, it was, and in August 1981 Congress demanded of the President that, before further funds for MX were appropriated, it must know where and how the new MX would find a home. Upon this rejection Congress hung a deadline: It must have a full-scheme basing plan before going further and must know by Dec. 1, 1982.

This deadline embitters both Weinberger and the President. Both had sought a deadline of October 1983 to let the scientists think through the intricate technical problems of combining the potent MX with its siting mode. But their hands were forced. If Congress insisted on a full-bodied plan by Dec. 1, it must have one — for Congress controls the money. Out of all the unpleasant options, the President and Weinberger chose the scheme called dense pack, based on a theory styled "fratricide." "Fratricide," said a Pentagon iconoclast, "is the military equivalent of supply-side economics." The thought was that, if one packed all the new MX missiles in one spot (Wyoming, where both Republican Senators and its one Republican Congressman were acquiescent to the choice), the Russians would have to clean out the entire pack, and their incoming missiles, as they exploded, would blow each other up — fratricide! Then we would strike back.

The theory has been explained to me over and over again and still makes no sense. Even its supporters make a weak defense, including Joint Chiefs Chairman Vessey. A veteran infantryman, Vessey is one of the rare ones in high command who has actually led troops in combat, actually trained troops. Of dense pack he says: "The first time I heard of it, I thought the thing was crazy. For guys like me, who'd been telling troops, spread out, don't bunch up, the idea of everyone bunching on the bull's-eye seemed crazy." Then, valiantly, supporting Weinberger, he adds that "they" convinced him the scheme would work — and he supported it.

Not so, however, with the other generals. Of the five commanders who make up the Joint Chiefs, three opposed the scheme.

Of this split opinion the President could have been in no possible doubt. The President met with Vessey and Weinberger at the White House in late fall and Vessey reported then that the Joint Chiefs all wanted the MX but were, in majority, opposed to dense pack — Army, Navy, Marines opposed, Air Force in favor (though SAC rumbled in opposition to its own chief) and he, Vessey, supportive. Weinberger gave his opinion: that no present American land-basing system could any longer be considered invulnerable to Russian first strike; that dense pack, on the advice of his scientists, would cause the Russians the most problems, diverting their resources; it would also be the least costly of plans. It was a gamble, and they were pressed by Congressional deadline. Thus, then, the President and Weinberger chose the gamble, hoping that the traditional "consensus" would bring a close battle in Congress to a victory.

But it could not, for MX, dense pack, aircraft carriers, B-1 bombers, all the rest, added up to a cost that a lame-duck Congress could not support without protest. Sensitized by the midterm elections, the freeze movement and the "fairness" issue, Congress was restless.

Said one of the most responsible men of the White House: "You simply have to recognize the political impact of the fairness issue — we can't cut benefits for poor people and increase military spending unless Cappy gives a little bit. We've got to get the economy going again — everything rests on that, the election of 1984 rests on that. Any cuts we make in the budget must be balanced for fairness against some cuts in the military. And, anyway, dense pack wouldn't work. We knew within five days of the President's speech [on Nov. 22] that it wouldn't float. We tried to round up five eminent scientists who would testify to Congress that fratricide would work. We couldn't find one. So the consensus came apart."

American defense policy is thus wide open for re-examination — more so in definition of the wars of the 80's than it is in the field. Weinberger's call to arms has been accepted almost in its entirety — his readiness and stockpiling, his aircraft carriers, cruisers, submarines and new planes. But when Congress broke off the tip of his lance, giving him $231.5 billion for defense, all but the $1 billion for dense pack, and fenced off money for development of the MX and a basing scheme, it revolted against a future it could not understand whose bizarre technologies a representative democracy could not absorb.

Weinberger simply happens to be there at a time when exhortation has run its limits and the politics of America and its technologies require a total revision of thinking about war.

It has been a long time since any independent group has had the authority or courage to dig beyond the defense budget into the connection between American defense and the Russian threat, or between American defense and its home politics. This is a problem that philosophers call "cutting at the joints." But no one either in this Administration or the Carter Administration has known where the joints lie.

So, now, we await yet another panel's report, due 12 days hence — that of a new commission headed by former Air Force Lieut. Gen. Brent Scowcroft, a successor to Henry Kissinger as chief of the National Security Council. Its assignment is to re-examine the MX missile and the problem of its basing. The new commission includes as its participating consultant Harold Brown, ex-Secretary of Defense, Democrat, a pre-eminent technologist; as its leading personality Alexander M. Haig Jr., ex-Secretary of State, Republican, a veteran of White House and NATO politics. It includes at least one distinguished scientist, John Deutch of the Massachusetts Institute of Technology, several experienced administrators, and as many window-dressing names. It includes no experienced men of politics nor any historian.

The most important measure of the commission's considerable weight is that the Pentagon leadership is afraid of it and its impact on Congress. To govern is to choose; since Weinberger and Reagan could not force Congress to their choice, they have offloaded the burden to a commission whose eminence may persuade Congress to make a choice.

The hope at the Pentagon is that this group can detach MX from dense pack, save the missile program and accuracy attainments and let them discard dense pack with honor. But their fears are clear, too — that the panel, whose authority runs beyond its arbitrary Feb. 18 deadline, may become a runaway grand jury. What if the new group urges that not only dense pack but the MX itself be discarded? Can its authority be overridden? Does the Administration dare oppose it?

So the commission is faced with conundrums that interlock with conundrums.

The conundrum, first, of American politics. Traditionally, Congress has let the Pentagon shape strategy; pressure on the forces has come from Congressmen and Senators who want their share of jobs from defense effort — navy yards, training centers, contracts. In this year of unemployment and deficit, every state still wants its share of defense jobs — but not its share of target sites. None — except Wyoming — will accept a bull's-eye that endangers its women and children. Old rules of politics have been turned upside down.

Russian politics do not suffer from such problems. The Russian command bases its missiles where and how it wants — no Congress hampers its decisions. "I think," said an unnamable Assistant Secretary of Defense, "that there is no conceivable new plan for land-based missiles that can get any Congressional majority."

Thus, on to another conundrum. Can American defense strategy any longer cling to the Triad — the quarter-century-old mothering concept that has held that the United States must maintain a land-based missile capacity, an airborne bombing capacity and an underwater submarine missile capacity? If American politics now forecloses the siting of new land-based missiles, will the land leg of the Triad be wiped out, victim to obsolescence and Russian accuracy? Must we rely on the sea leg of the strategy alone, and orient strategy to city-busting and terror as our ultimate deterrent?

One could go on with the political conundrums. How does a nation live with a Congress that counts more brilliant men than ever before but cannot lead, and will follow no leadership. Since Watergate, the Congress of the United States has been in revolt against its Presidency. It is in revolt again with good reason, but it can offer no solutions. Nor can it organize to address what may be the final conundrum. How does one tear apart and put together again the command of the United States armed forces located in the Pentagon?

The Pentagon may itself be obsolete. It was conceived at the same time as the B-52, last of the "fortress" planes, all designed, bristling with guns, to fight through to target. The oncoming B-1 ($20 billion to $25 billion cost per hundred) is a *new* plane. It has no guns; it is a suicide vehicle. We are lucky, indeed, to have pilots willing to fly them. Its virtues are many: a small radar cross section to avoid detection; advanced avionics and deception devices. But its chief virtue is that men fly the plane, men who can be called back, at the last minute. A missile cannot.

The B-1 is controllable. But the Pentagon may have become a machine uncontrollable by anyone. The Department of Defense was designed for its own time, its own years of glory. It was designed to face the shape of war that came from the victory of 1945. It was designed to coordinate the defense services, yet prevent them from becoming, like the Prussian general staff, insubordinate to civilian authority. It was designed specifically to preserve old traditions and built-in rivalries of independent services that could be resolved only by civilians.

The present Pentagon is too congested for thinking beyond weapons and contingency plans. It is so locked into its rival categories that any Secretary of Defense must spend most of his time monitoring committees — policy committees, acquisition committees, compliance committees, review committees, research and development committees. The Secretary of Defense has little time to think about the whole relation of arms to national needs or capacities; he "chops" commands and dispositions, but rarely makes them.

□

These are the realities:

- America is in no danger this year of 1983. Its defenses are in good shape.
- The country may well be in danger 10 years hence. Our land-based installations in their thin-skinned silos are all now vulnerable. If Russian fears, or ambitions, are not stayed by diplomacy between now and then, there is no other recourse of persuasion except to rebuild America's strike-back capacity.
- To rebuild that capacity may cost hundreds of billions, or even trillions. In which case, the world may witness the spectacle of two superpowers bankrupting themselves to remain superpowers.
- The American defense program is now conceived as an emergency, catch-up program. Like the sprint of a middle-aged man, it may bring on heart attack; slower may be better. The naval programs, particularly the aircraft-carrier task forces, are not only inordinately expensive but conceivably tactically unsound. Its strategic forces must be strengthened, possibly removed from the command of the Air Force. And the Air Force's tactical demands require thorough review by a strengthened office of a general staff.
- The economic crisis demands a review of defense demands. But the arms program is the not the adversary of the employment crisis. A billion dollars in defense commitments employs more skilled workers than a billion dollars in highway construction.

Ronald Reagan and Caspar Weinberger are both politicians. Their strategic-arms program is necessary chiefly as a prelude to negotiations. To make the jump from the stand on the ramparts to the negotiation of peace requires more than political skills. It requires statesmanship. ■

A COMPETITIVE ASSESSMENT OF THE U.S. BALL AND ROLLER BEARINGS INDUSTRY

U.S. DEPARTMENT OF COMMERCE
International Trade Administration • Washington, D.C.

A COMPETITIVE ASSESSMENT
OF THE
U.S. BALL AND ROLLER BEARINGS INDUSTRY

Prepared By

Capital Goods and International
Construction Sector Group

International Trade Administration
U.S. Department of Commerce

February 1985

FOREWORD

This following competitive assessment of the ball and roller bearing industry is intended to inform decision-makers in the Executive and Legislative Branches of the problems and prospects of the U.S. ball and roller bearing industry. It is also intended to alert and elicit advice from industry on these issues. This assessment is meant to inspire debate on the issues which could lead to new ideas and perhaps a consensus on an appropriate course for U.S. Government policy with respect to this industry. Comments on this assessment may be addressed to the attention of:

Deputy Assistant Secretary
Capital Goods and International Construction
Room 2001B
U.S. Department of Commerce
Washington, DC 20230

The scope of the assessment includes that equipment included in Standard Industrial Classification code 3562. Government agencies providing resource data and information include the International Trade Administration, Bureau of Census, Bureau of Economic Analysis, Department of Commerce; Bureau of Labor Statistics, Department of Labor; the International Monetary Fund; and the Department of Energy.

In the course of this assessment, advice and comments were sought from other agencies within the Department of Commerce, from the International Trade Commission, and from the private sector (including the Anti-Friction Bearings Manufacturers Association and individual bearings manufacturing companies).

The assistance and information provided by individuals within these organizations is gratefully acknowledged. Responsibility for the analysis and findings in this report remains with the U.S. Department of Commerce.

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EXECUTIVE SUMMARY

Ball and roller bearings are essential components of most machinery and equipment containing rotary parts. The bearings industry, with annual shipments of over $3 billion, represents about 2 percent of the value of shipments of machinery, except electrical (SIC 356). Ball bearings account for about 36 percent of the total value of bearings industry shipments; roller bearings, 45 percent, and the remaining 19 percent consists of parts and mounted bearings. The industry is mature, with a history of slow or no real growth during the last decade. The top four U.S. companies manufacture 56 percent of the total value of shipments. There are about 79 additional companies manufacturing at various degrees of specialization.

Steel is the major component of bearings and its price will be a major influence on the future competitiveness of the U.S. bearings industry in the world market. Quotas or other similar measures limiting steel imports could result in increasing prices of steel to some U.S. bearings manufacturers. Currently, U.S. bearings producers purchase most of the steel used for balls from abroad.

The industry, with a payroll of $889 million, provides employment for almost 43,000 workers. Leading states in employment--jointly accounting for 55 percent of total employment--are Ohio, Connecticut, South Carolina, and Indiana. Materials consumed by the industry, predominantly alloy and carbon steel mill products, had a value of $1.2 billion in 1982. The value added by manufacturers exceeded $2 billion.

The U.S. industry is subject to cyclical economic activity, particularly the cycles of major bearings markets such as automotive and industrial equipment products. In 1979, the U.S. industry reached a peak, with employment of 53,300, constant dollar value of shipments of over $1.8 billion, and nominal dollar shipments of $3.4 billion. Employment dropped to 40,500, constant dollar value of shipments to under $1.1 billion, and nominal dollar value of shipments to under $3 billion in 1983.

Annual capital expenditures in the U.S. industry increased from $51 million in 1972 to $245 million in 1980. Capital expenditures remained relatively high at $186 million in 1981 and $164 million in 1982, suggesting that a number of firms are taking the long view and endeavoring to improve their competitive position.

Employment in the bearings industry dropped from 50,900 in 1972 to 40,500 in 1983, for a compound annual growth rate of -3.2 percent. Average hourly earnings of production workers increased from $4.84 in 1972 to $10.56 in 1983, for a compound annual growth rate of 7.3 percent during this period. Profit margins for U.S. firms in the industry have run relatively high in comparison to manufacturers of special industrial machinery and general industrial machinery and equipment.

In foreign trade, exports have fluctuated between 8-10 percent of total U.S. bearing manufacturers' shipments. Most U.S. bearings exports fall in the categories of duty-free automotive parts trade with Canada, and the higher priced special feature bearings shipped to the industrial countries of Western Europe and Australia. In 1983, exports had a constant dollar value of $253 million, down from the $382 million peak in 1981.

Imports of bearings grew from $139 million in 1972 to over $450 million in 1982. As a percent of apparent U.S. consumption, they have increased from 9.6 percent in 1972 to 14.4 percent in 1982. U.S. market penetration, measured in units, is considerably higher.

Imports extensively and materially affect the ball bearings segment of the U.S. market and are becoming a major factor in the roller bearings sector. Dominant overseas suppliers include Japan, Canada and West Germany. Also, Singapore is rapidly expanding its influence in the U.S. bearings import market.

Free world trade in bearings by leading manufacturing countries tripled during the last 10 years, exceeding $3.2 billion in 1981. However, the U.S. share of the world export market dropped from 22 percent in 1967 to under 12 percent in 1981. During the same period, Sweden and the United Kingdom also lost market shares. But West Germany's share increased from 21 to 24 percent; Japan's from 15 to 18 percent; and France's from 8 to 10 percent. Also, since the early 1970's, exports from Singapore, a new-to-market country, have grown to 3 percent of the world export market in 1981 and in the process, significantly penetrated the U.S. market for radial ball bearings in the under 30 millimeter size group. Soviet Bloc countries are expanding their presence in the world market. Romania, in particular, has penetrated the U.S. tapered roller bearings market.

Although U.S. industry has some energy cost advantage and is comparable or superior in product technology, it continues to lose world market shares because of higher labor and material costs. In addition, major foreign competitors concentrate their output on long-run, standard, and most profitable items, and are extremely price competitive in the U.S. and Third World markets. U.S. manufacturers have devoted a larger portion of their facilities toward the production of shorter run, special purpose, and limited application bearings. Although some U.S. firms are increasing their investments in advanced machinery and equipment, they may continue to lose their competitive position in the world market unless wages and material prices improve in relation to overseas competitors, and the exchange rate in the world market improves.

Revolutionary future technological developments which would give the U.S. industry a greater competitive edge are not anticipated. However, the United States is equal to or slightly ahead of world competitors in bearing technology. Generally, with bearings produced to international standards, the vast majority are interchangeable in world markets.

Assuming current economic trends and current government policies change little during the 1980's, total U.S. manufacturers' shipments are projected to expand at an annual rate of about 3 percent per year in constant dollars and 6 percent in current dollars through 1990. Exports may grow at an annual rate of 5 percent and imports 12 percent per year during the same period, causing the trade deficit to expand from $159 million to over $550 million.

Issues facing the bearings industry are complex. As a secondary steel product manufacturing industry, it is in the middle of the production chain. Government policies that may aid the steel industry may not necessarily work to the best interests of the bearings industry, which relies heavily on steel in manufacturing bearings, or its customer industries.

Tariffs continue as an important issue to the bearings industry. In the Tokyo round, the U.S. reduced its duties on roller bearings, whereas some major overseas competitors did not. Further liberalization, either through multilateral or bilateral negotiations, now assumes great significance. Also, with imports of bearings an extremely sensitive issue, United States manufacturers strongly recommend continued exclusion of bearings from duty-free treatment under GSP.

Issues concerning national defense and the maintenance of bearings industry capacity are of significant importance to the United States government. Bearings products are important components of both direct defense and essential civilian machinery and equipment. The U.S. capacity to produce bearings is dwindling as foreign-made products continue to displace sales of U.S. bearings at home and abroad.

Affecting the economic health of the bearings industry are other issues, including tax incentives for investment in research and development, machinery and equipment investment tax policies, corporate tax rates, and anti-trust policies.

I. DEFINITION OF INDUSTRY AND STRUCTURE

This report is a competitive assessment of the ball and roller bearings industry and is one in a series of assessments of the future international competitiveness of U.S. industries being carried out by the International Trade Administration of the Department of Commerce. Efforts were made to obtain current, accurate information from published sources and industry officials. In some instances, specific ball and roller bearings industry data was not available for foreign-producing countries and related data on machinery industries or metalworking manufacturers is used to compare the U.S. and competitor country relative positions.

Description of Products in the Industry (SIC 3562) and Relative Size

Ball and roller bearings serve to reduce friction and promote easier and faster motion between moving parts. The ball and roller bearings industry consists of 158 establishments, primarily engaged in manufacturing ball and roller bearings. The major groupings within the industry appear in Table 1. The products of the U.S. ball and roller bearings industry fall in Standard Industrial Classification (SIC) 3562.

The typical bearing consists of an inner ring and an outer ring which rotate with respect to each other, separated by rolling elements which support the load. Constructed of precision parts and designed to operate quietly at high speeds, most bearings carry calculated loads, reliably, over predictable periods of time. The most significant commonality between the various types of bearings is the high degree of engineering skill and intensive capital investment required for their design and production. Almost every type and size of bearing is designed for production in quantity and for interchangeability with any other one of the same type and size. International standards in both dimensions and tolerances govern the production of most bearings. However, manufacturers design and produce some bearings for a specific single application.

Generally, a ball bearing finds use where speed is most important, and a roller bearing, where load is most important. Almost every type of mechanical equipment, from submarines to aircraft, dental drills to construction machinery, railroad equipment, automobiles, space vehicle guidance systems, and disk drives for computers use ball and roller bearings.

Major products made by the industry include radial and thrust ball bearings and tapered, cylindrical, needle and spherical roller bearings. Other products include mounted bearings such as pillow blocks, flange, cartridge and take-up units and specialized parts, including balls, rollers, cages or retainers, shields and seals.

The major groupings of the industry and their share of total product shipments in 1982, the latest year available, follow:

TABLE 1

MAJOR INDUSTRY GROUPINGS
SHARE OF TOTAL PRODUCT SHIPMENTS, 1982

SIC #	ITEM	CO. (#)	DOLLARS (M)	TOTAL BEARINGS SHIPMENTS (%)
3562	Total	83	$2,869	100
35621	Ball Bearings	49	1,068	37
35622	Tapered Roller Bearings	11	695	24
35623	Cylindrical, Spherical, Needle and Other Roller Bearings	31	585	20
35624	Mounted Bearings, Except Plain	16	240	8
35629	Parts and Components for Ball and Roller Bearings, Including Balls and Rollers	43	281	10

Major Material Inputs and Customers

Alloy and carbon steel products account for over 50 percent of the value of materials consumed by the ball and roller bearings industry. Other significant supplies include special dies, tools, jigs and fixtures; grinding wheels, and other abrasive products; and grinding oils and lubricants.

Approximately 60 percent of bearing shipments go directly to original equipment manufacturers. Other major customers include wholesale distributors, taking about 20-25 percent; exports, about 9-10 percent; and the Federal Government, 5 -10 percent. Construction, institutional and commercial customers, and state and local governments account for the balance of sales.

Major Segments in the Industry in Terms of Products and Markets

There are about 83 companies in the ball and roller bearings industry, operating approximately 140 separate manufacturing establishments. The four largest companies produce 56 percent of the value of industry shipments.

Most manufacturers specialize in either ball bearings, roller bearings or component parts such as balls. However, several major manufacturing companies manufacture both ball bearings and roller bearings in different facilities. Major manufacturers of both types of bearings are the General Motors Corporation, SKF Industries Incorporated, TRW Bearing Division of TRW, Inc. and Federal Mogul Corporation. Other major producers, including The Timken Company and the Torrington Company, a subsidiary of Ingersoll- Rand Co. specialize in roller bearings. The Fafnir Bearing Division of Textron, Inc. manufactures only ball bearings.

Bearings have an extremely broad range of applications. Therefore, concentration rates within most consumer industries are relatively small. The leading consumer industries are motor vehicles and parts, general industry machinery, construction machinery, and farm machinery as shown in Table 2.

Some manufacturers produce a relatively broad variety of types and sizes of bearings. Many other companies concentrate in a specialized range of bearings products and, consequently, have a narrower range of consumer markets. Examples include such companies as the Barden Corporation, New Hampshire Ball Bearings, Inc., and MPB Corporation, a subsidiary of The Signal Company, all of whom specialize in miniature and precision instrument bearings used primarily in aerospace applications. Other specialty companies include the Heim Corporation, whose major output is plain spherical bearings for aircraft mechanical controls, and Brenco Incorporated, which specializes in a narrow range of journal roller bearings for railway freight car wheel assemblies.

TABLE 2

BALL AND ROLLER BEARINGS CONSUMED BY SELECTED INDUSTRIES

		ROLLER	BALL	
SIC CODE	INDUSTRY	TOTAL	BEARINGS	BEARINGS
	All Industries	100%	100%	100%
3523	Farm Machinery	8.2	6.5	10.2
3531	Construction Machinery	9.0	9.6	8.1
3532 & 3	Mining & Oil Field Machinery	3.2	4.6	5.0
354	Metalworking Machinery	4.4	3.3	5.8
355	Special Industry Machinery	4.0	3.0	5.0
356	General Industry Machinery	9.8	9.3	10.4
3585	Refrigeration & Heating Equip.	3.8	1.7	6.0
3621	Motors and Generators	2.5	.6	4.9
371	Motor Vehicles and Parts	31.4	37.9	23.8
372	Aircraft and Parts	6.0	4.7	7.8
3743	Railroad Equipment	4.1	7.4	.1
	Other	13.6	11.4	16.3

SOURCE: Selected Materials Consumer MC-77-SR-11
U.S. Department of Commerce, Bureau of the Census

Major Foreign Competitors

Principal Free World countries supplying bearings and their share of the $3.2 billion export market are West Germany (24 percent), Japan (18 percent), the United States (12 percent), France (10 percent), the United Kingdom (10 percent), Italy and Sweden (6 percent each) and Austria and Switzerland (3 percent each). Major foreign competitors in the U.S. bearings market and their share of total 1983 U.S. imports include Japan (43 percent), West Germany (17 percent), Canada (13 percent), and Singapore (6 percent). The relative influences of Japan, West Germany and Canada on the U.S. market during the past 10 years have remained somewhat stable. However, Singapore, a new entrant in the U.S. market, has increased its share from $2 million or 1 percent of the total in 1976 to $25 million or 6 percent in 1983.

Romania entered the U.S. import market several years ago. In 1983, the Romanian share of total U.S. imports reached 4 percent. Most of the imports from Romania consist of tapered roller bearings whose average unit value is substantially below imports from other foreign countries. In 1983, Hungary entered the U.S. tapered roller bearings market, taking a 2 percent share of total U.S. imports of these bearings. Generally, Hungarian bearings imports are in the size range used for trucks and trailers and priced 22 to 39 percent below the U.S. price of comparable products.

II. INDUSTRY PERFORMANCE

U.S. Shipments and Trade

Table 3 shows the value of U.S. industry shipments, employment, average hourly earnings and capital expenditures over the period 1972 through 1983.

TABLE 3

U.S. INDUSTRY SHIPMENT AND DATA, 1972-83
(Millions of Dollars, Except as Noted)

Year	Value of Shipmts	Value of Shipmts ('72 $)	Total Employmt (000)	Produc. Workers	Avg.Hr. Earnings Produc. Workers	Capital Expendi-tures
1972	1,530.5	1,530.5	50.9	41.4	4.84	51.3
1973	1,845.3	1,786.4	54.3	43.9	5.16	63.1
1974	2,099.8	1,773.5	55.3	45.0	5.51	109.8
1975	2,106.7	1,533.3	50.0	40.2	6.04	92.1
1976	2,282.2	1,565.3	49.2	39.9	6.59	87.4
1977	2,567.3	1,621.8	50.6	41.3	7.04	132.9
1978	2,946.3	1,728.0	52.7	43.2	7.66	122.0
1979	3,411.2	1,820.3	53.3	43.1	8.46	140.0
1980	3,449.0	1,585.7	52.6	42.3	9.12	245.1
1981	3,916.7	1,571.1	53.3	42.4	9.95	186.3
1982[1]	3,083.4	1,139.5	42.8	33.0	10.56	163.7
1983[1]	2,961.0	1,065.0	40.5	31.1	10.56	--

[1] Preliminary

----- COMPOUND ANNUAL RATE OF GROWTH, 1972-1983 -----

Year	Value of Shipmts	Value of Shipmts ('72 $)	Total Employmt (000)	Produc. Workers	Avg.Hr. Earnings Produc. Workers	Capital Expendi-tures
	6.2	-3.2	-2.1	-2.6	7.3	--

Table 4 covers U.S. product shipments, exports, imports, trade balance, exports as a percent of shipments, and imports as a percent of apparent consumption.

TABLE 4

BALL AND ROLLER BEARINGS
(SIC 3562)
U.S. TRADE DATA, 1977-1982
(Millions of Dollars)

Year	Product Shipmts	Exports	Imports[1]	Trade Balance	Exports as % of Shipmts	Imports as % of Apparent Consumption[4]
1972	1,418.7	111.0	139.4	- 28.4	7.8	9.6
1973	1,695.7	157.5	185.6	- 28.1	9.2	10.8
1974	1,949.9	208.9	215.7	- 6.8	10.7	11.0
1975	2,046.3	222.6	207.4	15.2	10.9	10.2
1976	2,195.2	222.5	192.5	30.0	10.1	8.9
1977	2,444.5	206.3	249.5	- 43.2	8.4	10.0
1978	2,794.5	231.7	341.3	-109.6	8.3	11.8
1979	3,315.5	290.8	408.5	-117.7	8.8	11.9
1980	3,351.6	368.5	428.5	- 60.0	11.0	12.6
1981	3,759.8	381.9	477.0	- 95.1	10.2	12.4
1982	2,924.3[2]	310.3	452.3	-142.0	10.6	14.4
1983[3]	2,845.0	253.1	412.6	-159.5	8.9	13.7

[1] Imports exclude mounted bearings.

[2] Preliminary

[3] Estimated

[4] Import data does not reflect inland freight costs and appropriate markups required to show a true market value. Such adjustments would result in a higher import value elevating the true measure of imports as a percent of apparent consumption by about 4 percent.

SOURCE: Product Shipments Census and Annual Survey of Manufacturers.

Shipments

Industry shipments in current dollars peaked in 1981; in constant 1972 dollars, in 1979. The value of industry shipments in current dollars has shown a steady increase from 1972 through 1981 with the 1981 level two and one-half times the 1972 value. However, industry shipments in constant 1972 dollars have declined, showing a -3.2 percent compound average annual rate of decline from 1972 through 1983.

Historically, the levels of shipments of bearings have closely followed production activity in the durable goods and automotive industries (see Table 5 and Figure 1). The motor vehicle and parts industry consumes about 38 percent of shipments of U.S. roller bearings and 24 percent of shipments of ball bearings. Other major consumers of bearings include construction machinery (9 percent), farm machinery (8 percent), a wide range of general industrial machinery (10 percent), and aircraft and parts (6 percent). The concentration of ball or roller bearings covered by these markets appears in Table 2.

TABLE 5

U.S. SHIPMENTS OF DURABLE GOODS MOTOR VEHICLES AND PARTS AND BALL AND ROLLER BEARINGS, 1977-82

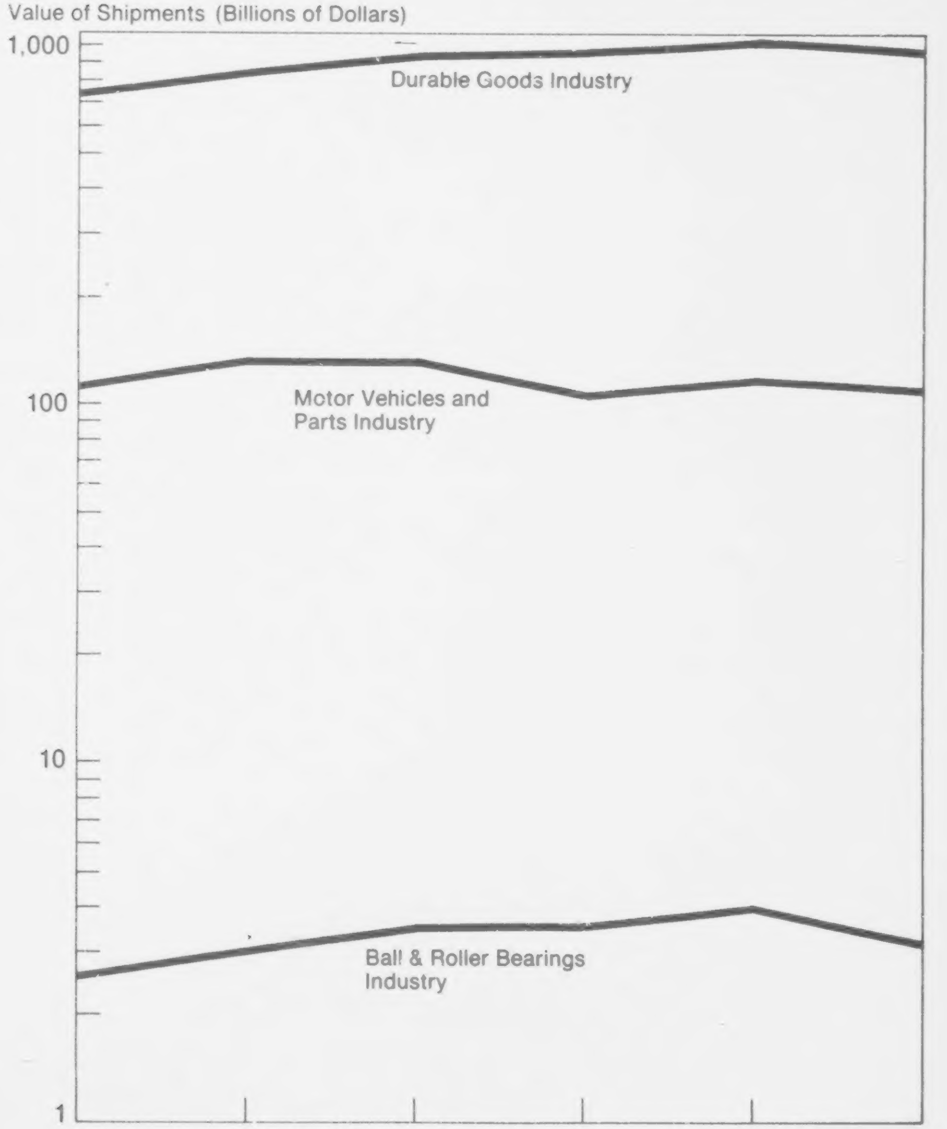
(Billions of Dollars)

	Compound Avg.Annual Rate of Change 1977-82	1982	1981	1980	1979	1978	1977
Durable Goods	5.3%	922.1	1,006.5	930.6	912.7	814.2	711.2
Motor Vehicles Parts	-0.5%	112.2	117.0	104.6	131.4	132.0	117.7
Ball and Roller Bearings	4.5%	3.1	3.9	3.4	3.4	3.0	2.6

SOURCE: Current Industrial Reports, U.S. Department of Commerce, Manufacturers Shipments Inventories, Orders, 1977-82, M3-1.12

Figure 1

U.S. Shipments of Durable Goods, Motor Vehicles and Parts and Ball and Roller Bearings, 1977–1982



NOTE: Scale is logarithmic

The level of shipments of bearings to the original equipment manufacturers (OEM) to export and government markets represents about 70 percent of total U.S. manufacturers' shipments. The remaining 30 percent of bearings shipments has, in the past, served to cushion any downturn in sales to OEM producers. As machinery users depend on aging machinery in lieu of new purchases, their consumption of replacement bearings increases.

The pattern of increased imports is adversely affecting the shipments of U.S. manufacturers, particularly to the replacement market. Bearings imports from Canada and Europe generally go to OEM producers. However, the larger volume of imports from other countries, including Japan and Singapore are disproportionately moving to distributors servicing the replacement market. As the volume of imported motor vehicles increases, imports of replacement bearings for these vehicles will continue to affect adversely U.S. manufacturers of bearings. In 1982, the ratio of unit imports to total available U.S. supply exceeded 50 percent for ball bearings and 27 percent for tapered roller bearings.

There is extensive overcapacity in the U.S. ball and roller bearing industry given their current level of competitiveness. Capacity utilization rates dropped from a high of 89 percent during the 1979 peak production year to 48 percent in 1982 and remained at about the same level in 1983. Following the general economic recovery in the United States, anticipated gains in shipments of bearings in 1984 should bring about some increase in capacity utilization, but it will still remain substantially below desired levels.

In recent years, inventories have not changed substantially, representing about 22-24 percent of the total value of shipments. The downturn in shipments by product line in 1982 (latest year available) appears below:

TABLE 6

DOWNTURN IN SHIPMENTS BY PRODUCT LINE
(Quantity and Value in Millions)

Quantity & Value of Shipment	-----1981----		-----1982----		% Change --1981-1982--	
	Units	Dollars	Units	Dollars	Units	Dollars
Ball Bearings	382	1,274	300	1,068	-21.4	-16.2
Tapered Roller Bearings	252	968	187	695	-25.8	-28.2
Cylindrical, Spherical, Needle & Other Roller Bearings	351	714	321	585	- 8.6	-18.1
Mounted Bearings, Except Plain	11	280	9	240	-18.6	-14.3
Parts & Components, Including Balls and Rollers	N/A	346	N/A	281	N/A	-18.9

Exports and Imports, 1972-1983

Exports--U.S. exports of bearings as a percent of total manufacturers' shipments have fluctuated between about 8 and 10 percent during the 1972-83 period. Exports of roller bearings have dominated with about a two-thirds share--tapered roller bearings have accounted for over 40 percent of total U.S. exports during the last 5 years--to ball bearings' one-third share.

Canada has consistently provided the major export market for U.S. bearings, taking about a 25 percent share of the total for both ball and roller bearings. Mexico follows with a 10 percent share of ball and roller bearings and Western European countries, led by West Germany, provide the third major export market.

The special provisions for duty-free treatment of bearings provided in the U.S./Canadian Automotive Products Agreement contributes to the relatively high level of U.S. exports of bearings to Canada. Low-volume, higher-priced, special-purpose bearings--including replacement bearings for U.S. machinery previously sold overseas--apparently account for most other exports. For example, in 1982, the average unit value for exported radial ball bearings was $7.75 and for non-radial ball bearings, $5.08. By comparison, the average unit value of total U.S. manufacturers' shipments for all types of ball bearings was $3.56 in 1982.

The total value of U.S. exports of all types of bearings increased from $111 million in 1972 to almost $382 million in 1981, then dropped to $310 million in 1983. Trends in exports by selected types of bearings and country of destination follow in Table 7. Relative to other major bearing producing countries, the United States has a much lower ratio of exports to total shipments.

U.S. Imports--Imports peaked in 1981 at $477 million or 12.4 percent of U.S. apparent consumption, having steadily increased from $139 million--or less than 10 percent of apparent consumption--in 1972. In 1983, imports dropped to $413 million or 13.7 percent of apparent consumption, coinciding with the weak U.S. market for bearings. Imports by selected types and countries are shown in Table 8.

In terms of units, as Table 8 shows, the effect of imports on the U.S. market has become more significant, particularly in the ball bearing segment. In 1982, unit imports of ball bearings ranged from a low of 47.9 percent of available U.S. supply of precision ball bearings in the 30-52 mm size category to a high of 60.8 percent in the 9-30 mm size group. In 1982, unit imports of tapered roller bearings reached 27.7 percent of available U.S. supply, up from 7.2 percent in 1972.

TABLE 7

EXPORTS

BALL AND ROLLER BEARINGS AND PARTS THEREOF, INCLUDING BALLS AND ROLLERS (EXCLUDING MOUNTED (SCHEDULE B#6803026-6803595)
U.S. EXPORTS OF DOMESTIC MERCHANDISE,
BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	61,614	82,477	85,560	95,538	70,145	73,361
Mexico	21,929	30,401	46,582	51,380	29,169	17,160
W. Germ.	5,105	11,097	17,728	20,407	19,012	17,933
U.K.	14,513	20,452	17,719	14,333	16,907	13,147
France	12,065	15,534	23,405	16,563	14,047	10,920
Australia	8,305	11,753	14,442	14,627	12,780	10,154
Venezuela	8,790	8,169	10,249	12,409	12,349	5,167
Rep. S. Af.	6,101	8,234	14,980	15,840	12,235	5,860
All Other	76,490	85,611	112,364	112,678	96,729	75,695
TOTAL	214,912	273,729	343,026	353,775	283,372	229,397

TAPERED ROLLER BEARINGS AND PARTS THEREOF, OTHER THAN ROLLERS
(SCHEDULE B#6803593)
U.S. EXPORTS OF DOMESTIC MERCHANDISE,
BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	25,784	37,779	31,857	40,318	28,884	30,592
Mexico	9,769	13,695	22,284	26,329	11,031	7,619
W. Germ.	2,372	6,613	7,544	11,378	8,758	6,125
Rep. S. Af.	3,450	5,392	9,749	9,726	8,459	4,351
Venezuela	4,721	4,111	5,186	6,881	6,876	2,040
France	7,867	10,770	14,672	7,973	6,808	5,418
Australia	2,894	8,091	7,602	8,054	6,360	4,707
U.K.	4,501	9,815	5,493	2,419	5,381	3,919
All Other	30,930	39,083	47,731	43,683	36,127	25,985
TOTAL	92,287	135,349	152,119	156,760	118,683	90,756

TABLE 7 (cont'd)

ROLLER BEARINGS, OTHER THAN TAPERED ROLLER BEARINGS, INCLUDING COMBINATION ROLLER AND BALL BEARINGS AND PARTS THEREOF, OTHER THAN ROLLERS
(SCHEDULE B#6803594-6803595)
U.S. EXPORTS OF DOMESTIC MERCHANDISE,
BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	14,975	19,080	23,391	24,223	20,101	21,805
Mexico	5,340	6,245	9,954	7,121	6,023	3,013
Belgium	3,808	4,338	6,854	5,314	4,747	3,597
W. Germ.	1,153	1,270	3,371	2,766	4,709	6,862
Australia	1,922	2,039	4,051	3,886	4,219	2,861
U.K.	3,396	4,042	4,617	4,391	3,964	4,005
Rep. S. Af.	1,648	1,878	2,971	3,302	2,649	875
France	704	1,088	2,028	2,097	2,177	1,198
All Other	17,435	17,659	21,352	23,332	21,974	18,424
TOTAL	50,380	57,629	78,589	76,132	70,563	62,640

PARTS OF BALL BEARINGS, OTHER THAN BALLS:
U.S. EXPORTS OF DOMESTIC MERCHANDISE,
BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	2,037	2,142	2,328	1,860	1,049	553
Mexico	430	628	1,361	768	864	1,196
S. Arab	63	169	317	556	719	419
W. Germ.	56	79	641	1,239	559	286
U.K.	753	978	455	297	523	396
Japan	126	68	130	187	348	252
Italy	41	19	141	302	344	181
Netherlands	355	393	546	555	264	603
All Other	2,782	1,860	1,928	1,612	1,522	1,442
TOTAL	6,644	6,336	7,847	7,377	6,192	5,328

TABLE 7 (cont'd)

ANTIFRICTION BALLS AND ROLLERS
(SCHEDULE B#6803026-6803040)
U.S. EXPORTS OF DOMESTIC MERCHANDISE, BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	2,461	3,619	3,774	5,208	3,793	3,099
Mexico	627	839	1,021	1,970	2,555	266
France	775	433	464	300	820	347
W. Germ.	98	405	1,095	702	468	364
Kor. Rep.	116	--	19	16	428	--
Israel	21	44	492	873	394	--
U.K.	450	649	490	635	355	423
Japan	33	127	181	129	354	476
All Other	1,355	1,964	3,225	1,968	1,638	1,365
TOTAL	5,936	8,080	10,762	11,803	10,805	6,340

BALL BEARINGS WITH INTEGRAL SHAFTS
(SCHEDULE B#6803300)
U.S. EXPORTS OF DOMESTIC MERCHANDISE, BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	1,141	1,896	772	710	417	1,279
W. Germ.	11	162	23	236	384	133
Mexico	331	637	838	1,422	379	332
Spain	19	119	269	132	278	183
Brazil	222	134	251	315	252	--
Liberia	5	1	4	--	173	--
Venezuela	201	165	185	213	121	--
Turkey	2	21	36	99	101	--
All Other	1,150	2,190	3,962	2,271	807	952
TOTAL	3,081	5,324	6,339	5,398	2,911	2,879

TABLE 7 (cont'd)

BALL BEARINGS, RADIAL TYPE
U.S. EXPORTS OF DOMESTIC MERCHANDISE, BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	6,557	9,165	11,990	12,583	7,836	7,811
Mexico	2,360	3,606	7,480	8,463	4,673	2,763
U.K.	2,795	2,113	2,878	3,515	3,346	2,861
France	1,950	1,940	3,153	4,950	2,996	1,927
Netherlands	1,389	1,513	2,506	2,742	2,884	2,246
Belgium	1,539	1,246	2,994	2,680	2,530	1,516
Japan	1,512	1,473	2,390	3,576	2,153	963
W. Germ.	887	1,275	2,042	1,886	1,613	2,139
All Other	9,741	8,208	11,337	15,740	10,819	10,077
TOTAL	28,730	30,540	46,771	56,135	38,850	32,299

BALL BEARINGS, NON-RADIAL TYPE
(SCHEDULE B#6803586)
U.S. EXPORTS OF DOMESTIC MERCHANDISE, BY PRINCIPAL MARKETS, 1978-1983
(Thousands of Dollars)

Market	1978	1979	1980	1981	1982	1983
Canada	8,659	8,796	11,447	10,635	8,064	8,222
Mexico	3,073	4,750	3,643	5,308	3,644	1,970
U.K.	2,557	2,630	3,541	2,903	3,250	1,544
W. Germ.	529	1,294	3,012	2,199	2,521	2,031
Venezuela	1,873	1,929	1,789	1,642	2,020	635
Netherlands	1,114	640	1,282	2,185	1,534	1,619
Colomb.	739	881	931	786	1,506	1,031
Japan	370	417	1,453	1,696	1,081	397
All Other	8,941	9,134	13,492	12,817	11,746	11,786
TOTAL	27,855	30,470	40,598	40,171	35,368	29,235

SOURCE: Compiled from official statistics of the U.S. Department of Commerce.

TABLE 8

IMPORTS

ANTIFRICTION BALLS AND ROLLERS:
(SCHEDULE B#6803025-30-40-3100)
U.S. IMPORTS FOR CONSUMPTION,
BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Japan	5,079	6,371	5,454	6,811	5,741	3,865
W. Germ.	3,198	3,672	3,793	4,228	3,484	2,423
France	268	229	754	1,731	1,367	1,005
Italy	2,128	1,899	1,933	1,253	670	210
U. Kingdom	979	956	2,845	1,267	643	338
Canada	3,084	3,002	1,488	591	540	701
Netherlands	173	352	365	319	232	130
Switzerland	111	409	199	205	196	294
All Other	941	689	218	276	401	1,228
TOTAL	15,966	17,580	17,049	16,680	13,274	10,194

BALL BEARINGS, RADIAL TYPE
(SCHEDULE B#6802704-08-12-17-18-20)
U.S. IMPORTS FOR CONSUMPTION,
BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Japan	98,342	97,509	93,208	100,646	84,366	78,046
W. Germ.	27,227	48,282	47,501	37,327	28,133	26,198
Singapore	4,994	8,689	13,407	11,726	18,629	19,506
Canada	17,122	24,053	20,905	19,335	16,972	19,078
Italy	3,831	7,260	8,161	12,305	8,654	10,496
Romania	3,863	7,753	5,947	8,069	6,361	7,939
France	2,781	3,801	5,392	5,612	5,140	3,787
Sweden	4,954	5,922	4,885	5,101	4,692	3,787
All Other	14,113	20,434	25,949	21,407	19,368	11,522
TOTAL	177,227	223,701	225,528	221,528	192,314	169,806

TABLE 8 (cont'd)

BALL BEARINGS, NON-RADIAL TYPE:
(SCHEDULE B#6803722)
U.S. IMPORTS FOR CONSUMPTION, BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Japan	2,463	6,151	5,077	4,553	4,358	5,761
W. Germ.	7,069	4,453	6,170	3,702	4,299	4,567
Italy	891	1,203	1,985	4,030	2,969	4,531
U. Kingdom	2,267	3,680	3,708	2,528	1,571	1,635
Canada	3,466	3,404	2,765	1,772	1,450	1,023
France	556	803	1,334	1,353	505	1,047
Switzerland	359	571	1,760	248	424	815
Kor. Rep.	--	3	37	1	210	--
All Other	798	1,313	3,224	1,516	1,127	2,573
TOTAL	17,868	21,580	26,061	19,702	16,914	21,952

BALL BEARINGS WITH INTEGRAL SHAFTS:
(SCHEDULE B#6803300-3400)
U.S. IMPORTS FOR CONSUMPTION, BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Canada	6,341	6,027	4,178	4,249	5,491	8,101
Japan	5,869	5,974	4,759	4,654	4,840	4,941
W. Germ.	1,046	2,819	2,000	3,232	2,612	3,027
U. Kingdom	1,656	820	355	161	152	175
Romania	--	--	--	--	45	--
France	34	73	106	114	44	--
Brazil	--	--	10	147	40	--
Belgium	85	224	164	111	38	--
All Other	114	218	189	306	105	3,035
TOTAL	15,146	16,154	11,761	12,976	13,367	13,209

TABLE 8 (cont'd)

PARTS OF BALL BEARINGS OTHER THAN BALLS:
SCHEDULE B#6803727-28-30)
U.S. IMPORTS FOR CONSUMPTION,
BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Japan	17,923	20,204	18,723	21,235	17,043	12,877
W. Germ.	2,556	2,858	2,192	1,090	1,693	1,461
U. Kingdom	704	1,268	1,317	601	874	882
Singapore	4	28	17	65	674	629
Ireland	56	39	--	3	488	80
Switzerland	65	94	138	173	264	283
France	121	325	341	519	258	157
Canada	238	1,103	671	299	251	254
All Other	571	843	877	495	634	1,349
TOTAL	22,239	26,761	24,277	24,480	22,180	17,972

NOTE: The major portion of imports from Japan and W. Germany are used in the assembly of bearings in U.S. production facilities owned by Japanese and German companies.

TAPERED ROLLER BEARINGS AND PARTS THEREOF, OTHER THAN ROLLERS:
(SCHEDULE B#6803932-34-38-40, B#6803140-44-48-52)
U.S. IMPORTS FOR CONSUMPTION,
BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

Source	1978	1979	1980	1981	1982	1983
Japan	55,670	57,643	42,226	43,376	49,257	63,671
Canada	14,354	13,969	10,241	12,360	11,248	20,999
U. Kingdom	2,430	4,248	3,366	7,455	10,793	4,186
Romania	2,489	3,977	3,398	4,443	6,508	4,292
W. Germany	2,313	4,249	3,805	2,917	5,806	4,471
France	930	835	1,142	578	1,557	1,086
Italy	322	1,052	974	2,198	1,333	303
China	--	--	--	--	1,151	902
All Other	5,327	2,308	3,145	1,916	1,930	1,081
TOTAL	83,835	88,282	68,296	75,243	89,584	100,991

TABLE 8 (cont'd)

ROLLER BEARINGS, OTHER THAN TAPERED ROLLER BEARINGS (INCLUDING COMBINATION ROLLER AND BALL BEARINGS AND PARTS THEREOF): (SCHEDULE B#6803950-60-4170)
U.S. IMPORTS FOR CONSUMPTION, BY PRINCIPAL SOURCES, 1978-1983
(Thousands of Dollars)

SOURCE	1978	1979	1980	1981	1982	1983
W. Germ.	27,946	41,469	46,722	35,406	37,343	29,801
Japan	9,590	10,549	11,519	13,676	15,993	11,260
U. Kingdom	5,107	8,064	10,260	16,259	14,163	8,049
Sweden	6,731	12,466	14,572	15,529	8,332	6,433
Canada	7,185	6,842	5,697	8,185	8,009	7,697
Singapore	1,652	2,880	4,663	3,477	6,734	5,248
Austria	918	1,938	2,058	2,325	3,578	2,617
Italy	2,336	2,471	1,910	2,585	2,510	1,976
All Other	6,143	8,557	9,313	8,773	8,078	6,257
TOTAL	67,608	95,238	106,712	106,214	104,741	79,338

TABLE 9

U.S. IMPORTS AS A PERCENTAGE OF AVAILABLE TOTAL U.S. SUPPLY
(Millions of Units)

Type	Imports	U.S. Shipments	Tot. Available U.S. Supply (Shipmts Plus Imports)	Imports as a Percent of Available U.S. Supply
		1972		
Radial Ball Bearings				
Under 9mm	2.7	N/A	N/A	N/A
9-30mm	43.7	52.2	95.9	45.6%
30-52mm	59.3	103.8	163.1	36.4%
Over 52mm	22.7	77.7 [1]	100.4	22.6%
Tapered RB	15.6	202.8 [2]	218.4	7.2%
		1982		
Radial Ball Bearings				
Under 9mm	7.3	6.6	13.9	52.5%
9-30mm	78.8	50.7	129.5	60.8%
30-52mm	53.6	58.1	111.8	47.9%
Over 52mm	22.5	21.6	44.1	51.0%
Tapered RB	71.5	186.8	258.3	27.7%

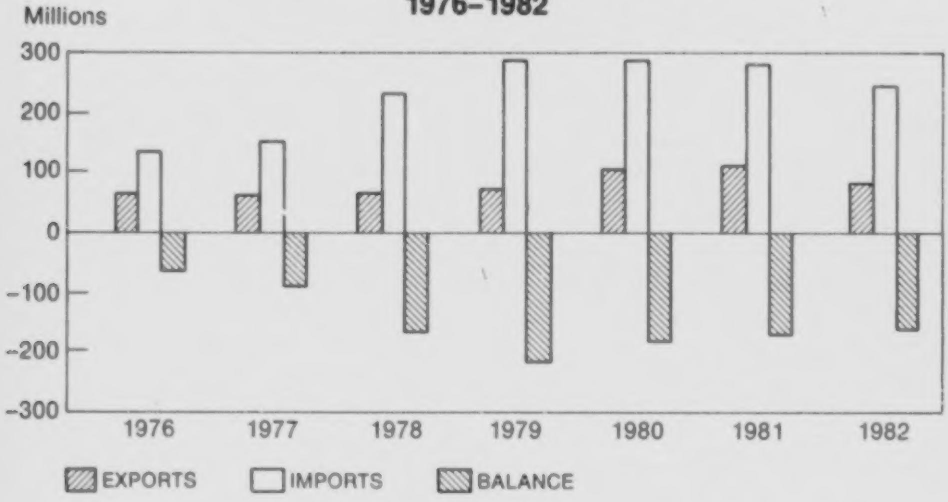
[1] Excludes over 100mm ABEC percent and over estimated to be less than 150 million.

[2] Excludes over 30"

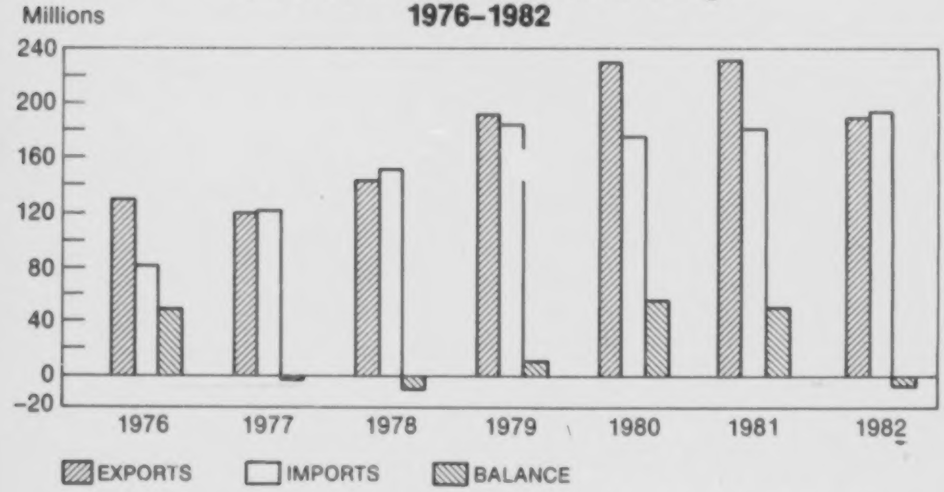
NOTE: Although the trade balance for ball bearings has been negative for many years (-$100 million or greater), in 1982, the trade balance in roller bearings, see Figure 2, dipped to a negative $5 million, the first unfavorable balance for this group since 1978, signaling potential future import problems for the roller bearing segment of the industry.

Figure 2

U.S. Trade Balance/Ball Bearings 1976–1982



U.S. Trade Balance/Roller Bearings 1976–1982



SOURCE: ITC Summary of Trade and Tariff Information Ball and Roller Bearings and Parts, TSUS 680.30 - 680.41, September, 1983

The variety of sizes, types and special features of bearings complicates any effort to pinpoint competitive prices for specific bearings in the U.S. and other world markets. However, the average unit value for general size categories of ball bearings and tapered roller bearings clearly indicates that (1) the greatest concentration of imports falls in the high volume, lower precision ABEC one and three quality categories, and (2) the average unit value of bearings from the major import suppliers (Japan and Singapore for ball bearings and Japan and Romania for tapered roller bearings) fall substantially below U.S. average unit value as indicated in Table 10.

TABLE 10

BALL AND ROLLER BEARINGS
AVERAGE UNIT PRICE

Radial Ball Bearings	1982: Average Value Per Unit	Imported Value as a % of U.S. Value
9mm and Under		
U.S. (ABEC 1 and 3)	$1.19	
Singapore	.89	75%
Japan	.72	60%
Switzerland	1.46	122%
9-30mm		
U.S. (ABEC 1 and 3)	1.58	--
Japan	.63	40%
Singapore	.77	49%
30-52mm		
U.S. (ABEC 1 and 3)	1.82	--
Japan	.93	51%
52-100mm		
U.S. (ABEC 1 and 3)	5.98	--
Japan	2.30	38%
West Germany	3.23	54%
Over 100mm		
U.S. (ABEC 1 and 3)	42.17	--
Japan	7.59	18%
West Germany	21.92	52%
TAPERED ROLLER BEARINGS		
Cups and Cones		
U.S.	16.53	--
Japan	6.20	38%
West Germany	15.50	94%
Romania	.52	3%
Cup Assemblies		
U.S.	1.83	--
Japan	.59	32%
Romania	1.10	28%
Cone Assemblies		
U.S.	3.91	--
Japan	1.13	29%
Romania	1.10	28%

NOTE: The value comparisons for tapered roller bearings cover a wide range of sizes and may not reflect comparable value as closely as the limited size categories for radial ball bearings.

Capital Investment

Capital expenditures by manufacturers of ball and roller bearings have fluctuated from $51 million in 1972 to $245 million in 1981 to $186 million in 1982. Average annual expenditures between 1972 and 1982 ran about $114 million, representing about 4.8 percent of the industry's value of shipments. Although several manufacturers have added or expanded production facilities in recent years, the majority of expenditures, over 85 percent, have gone to new machinery and equipment as indicated in the following table.

TABLE 11

CAPITAL EXPENDITURES/BEARINGS INDUSTRY
(Millions of Dollars)

Year	Building and Other Structures	Machinery and Equipment	Total
1972	N/A	N/A	51.3
1973	8.3	64.8	73.1
1974	17.8	92.0	109.8
1975	11.1	81.0	92.1
1976	8.4	78.9	87.3
1977	N/A	N/A	132.9
1978	12.7	109.3	122.0
1979	18.5	123.5	142.0
1980	33.9	211.2	245.1
1981	19.3	167.1	186.4

SOURCE: 1977 Census of Manufacturers, 1979 and 1981 Annual Survey of Manufacturers, Bureau of Census, U.S. Department of Commerce.

Pac Amor Bearings' Kubar Division is building a precision ball bearing plant in Troy, New York, which will initially employ 125. The firm's Cambridge, Massachusetts plant is rebuilding some of its machinery for transfer to the new facility. After the transfer later this year, Kubar will close the Cambridge plant.

Since the mid-1970's Fafnir Bearing Division of Textron has added three new production facilities to the two long established manufacturing plants in New Britain and Newington, Connecticut. A plant in Pulaski, Tennessee now manufactures wide inner-ring ball bearings for the farm equipment industry. Within the last several years, Fafnir built two other ball bearing manufacturing facilities in Calhoun, Georgia and Arkadelphia, Arkansas. The Calhoun plant is concentrating production in radial ball bearings primarily for use in electric motors, farm machinery, construction machinery and pumps.

The worldwide, multibillion dollar FAG group of companies (FAG Kugelfischer George Schafer and Company) has recently concentrated its U.S. manufacturing operations in Joplin, Missouri with conversion of the old plant in Stamford, Connecticut to a 90,000 square foot distribution center. The original portion of the Joplin plant built in 1971 produces ball bearings, cylindrical roller bearings, and water pump bearings. A multimillion dollar expansion completed in the early 1980's accommodates the manufacture of large (over 120mm) bore spherical roller bearings. The bearings produced in the Joplin plant now account for about half of the company's U.S. sales, with the other half imported from FAG plants in Germany, Portugal, Brazil, Canada, and Italy.

Hoover-NSK Bearing Company, formed as a joint venture in 1973 but currently a subsidiary of Nippon Seiko KK(NSIC), at its main plant at Ann Arbor employs about 500 and produces standard Conrad or Deep-Groove bearings in bore sizes larger than 30mm. In 1975, the company built a highly automated 200 employee plant in Clarinda, Iowa for the production of high-volume, small-bore ball bearings primarily for electric motor applications.

In addition to the foregoing relatively new or expanded production facilities, The Timken Company, a leading world manufacturer of roller bearings, has carried out a multimillion dollar long-range capital improvement program. Since 1979, Timken has spent over $500 million in plant and equipment improvements. Timken is one of a few bearing manufacturers that produces its own steel mill products. In addition to the $500 million program Timken brought on stream, at the cost of $25 million, a new tube mill.

In the 1980's, New Hampshire Ball Bearings, Inc., a major U.S. producer of miniature and precision instrument bearings, has spent an estimated $8 million in capital expenditures, a significant investment considering its annual total net sales averaged about $45 million during the 1980-83 period. New Hampshire Ball Bearings added 27,000 square feet to its Laconia, New Hampshire facility, the location of its spherical bearing and rod end operation, and 74,000 square feet to the main plant in Peterborough, New Hampshire. The expenditures of $3.2 million in 1980 and $5.0 million in 1981 went principally for plant and for advanced production equipment.

During the last few years, the Barden Corporation, another important producer of miniature and precision instrument bearings, made cumulative capital expenditures of $16 million with two-thirds going toward expanded capacity and one-third for improved efficiency, including replacement of older machinery.

MPB Corporation, a manufacturer of precision ball and roller bearings for the aircraft, missile, and computer markets, made capital expenditures of $20 million in the period of 1979-1983. Included in the expenditures were major capacity expansions at two divisions along with significant expenditures in new state-of-the-art production and measurement equipment.

Research and Development

Research and development is a key factor for U.S. firms in their efforts to sustain a competitive position in the world market for bearings. Although a mature industry whose products are rigidly standardized by both type and size worldwide, revolutionary developments--including improved production processes as well as new product designs, improved materials and new or better lubricants--can improve the U.S. competitive position. A sample of major bearing producers indicates that research and development expenditures increased from the equivalent of about 2.3 percent of net sales in 1981 to over 3 percent in 1983. They direct much of the product's research and development efforts toward defense-related aerospace applications. However, their total efforts cover a wide spectrum of applications for use in most industries.

In defense-related efforts, bearing manufacturers often work with Department of Defense (DOD) prime or secondary contractors to develop special purpose bearings. In many cases, low quantitative demand for the resulting product necessarily means high prices for individual bearing products.

For competitive reasons, manufacturers are reluctant to discuss their specific research efforts. General information on most new or improved products does not become available until the products reach the marketplace.

However, examples of some major expenditures by U.S. companies have received mention in recent annual reports from The Timken Company, Federal Mogul Corporation, Fafnir Bearing Division of Textron, Inc., New Hampshire Ball Bearings Company, The Barden Corporation, and SKF Industries, Inc.

The Timken Company, a recognized industry leader in product research and development, has maintained an ongoing comprehensive corporate research program. It specifically aims (1) to develop new and improved steel and bearing products, (2) to expand application of existing products and (3) to develop more efficient processes and techniques for their manufacture. The size of their research staff doubled in the late 1970's. The expenditures for research and development and testing expanded from $16 million in 1981 to over $20 million in 1983.

Emphasis is currently going to developing different, more efficient ways of making bearings resulting in: (1) the reduction of machining operations and more economical use of raw materials and energy; (2) investigation of alternative ways of producing steel to conserve energy, (3) improve material characteristics and increasing productivity without sacrificing quality; and (4) development and testing of automatic gauging and inspection systems in an effort to conduct these functions accurately, quickly and by nondestructive means.

Federal-Mogul Corporation, a diversified company with bearing sales representing about 30 percent of their total sales, allocates much of their development expenditures to upgrading their production processes. The company employs advanced computer-aided manufacturing (CAM) programs and is working on introduction of both computer-assisted design (CAD) programs and robotics. Longer range, it also seeks to apply in its manufacturing processes microprocessors, microcomputers, lasers, thermography, ultrasonic inspection and other advanced manufacturing, inspection and materials handling equipment.

In advanced facilities, Federal-Mogul has become involved in the design and testing of current and new products for the space shuttle program, including applied research on cylindrical roller bearings, retainers and separators; aircraft bearing materials; ball and roller bearing endurance characteristics; and tapered roller bearing design analysis.

Also concentrating efforts on production advances, Fafnir Bearing Division of Textron, Inc., has recently introduced CAD/CAM systems to speed new production and to improve their product design processes. In 1983, Fafnir added $7 million in robots and other modern machine tools to their manufacturing operation. In addition, the company is developing an automated bearing assembly system which will incorporate a computer-supervised robot-assisted machine designed specifically to assemble a wider range of short run bearing lots.

New Hampshire Ball Bearings Company, in addition to spending $8 million in 1980-1981 for advanced production equipment, invests over $1 million per year in product design and development, production engineering and application engineering involving customer consultation. As a miniature and instrument bearing producer, the company is a major producer of high precision bearings for defense contractors.

In recent years, the Barden Corporation, also a producer of high precision miniature and instrument bearings, invested approximately $4 million in developing more efficient production facilities.

With expenditures of up to $25 million reported for recent years, SKF Industries, Inc. apparently has a major research and development program. One of the company's goals is to develop optimum standard bearing ranges for different industrial sectors which could ultimately result in reduction in the vast number of sizes and types of bearings now produced and lead to more economical production runs.

Financial Performance

Except for 1977 and 1982, net profits of firms producing ball and roller bearings have out performed other manufacturers of general and special industrial machinery and equipment.

Net profits of firms producing bearings increased from 6.2 percent of sales in 1977 to 9.3 percent in 1981, before declining to 4.8 percent in 1982 and rebounding to 5.6 percent in 1983. By comparison, the net profits of related machinery producers have been generally several points below the bearings industry as shown in the following table.

TABLE 12

NET PROFITS BEFORE TAXES
(Profits as a Percent of Sales)

	1983	1982	1981	1980	1979	1978	1977
Ball & Roller Bearings SIC 3562	5.6	4.8	9.3	7.3	8.9	7.6	6.2
Special Industrial Mach. SIC 3551/52/53/54/55/59	2.9	5.0	6.0	5.7	5.3	6.1	6.9
General Industrial Machinery and Equipment SIC 3561/64/66/67/69	3.0	5.4	6.0	6.7	6.0	6.1	6.3

SOURCE: RMA's 1983 Annual Statement Studies
Robert Morris Associates, Philadelphia, PA.

U.S. Employment and Earnings

Total employment in the bearing industry hit a peak of 61,400 in 1966 during the last years of the Viet Nam conflict. The most recent peak of 53,300 came in 1981 followed by an estimated drop of 20 percent to 42,800 in 1982, and a further drop of over 5 percent to 40,500 in 1983.

The bearings industry is labor intensive, with payroll costs representing almost 27.9 percent of the value of shipments, compared to about 24.1 percent for all machinery manufacturing and 18.8 percent for all manufacturing industries. The bearings industry employs highly trained workers operating a variety of precision metalworking machines and instruments for size and quality control. Machine operations include heat treating, metal cutting and forming, grinding, honing and assembly, and packaging. Production workers include metal cutting and forming machine set-up operators, tool and die makers, assemblers and inspectors.

TABLE 13

BALL AND ROLLER BEARING EMPLOYMENT

Year	Total Employment	Production Workers	Hourly Earnings
1977	50,600	41,300	7.04
1979	53,300	43,100	8.46
1981	53,300	42,400	9.95
1982	42,800	33,000	10.56

The industry is mixed as to union and non-union shops. Also, many companies have a mix of union and non-union manufacturing facilities. Organized labor represents production workers at about two-thirds of the production facilities.

U.S. Productivity

As measured by output per employee hour, productivity in the ball and roller bearing industry grew at an average annual rate of 2.7 percent during the 1958-79 period, slightly more than the 2.6 percent rate for all manufacturing. The rise resulted from average annual increases of 3.5 percent in output versus 0.8 percent in employee hours worked.

During the last 10 years (1972-1982), labor productivity measured in value of shipments per man-hour (1972 constant dollars), shows a general increase from $18.35 per man-hour in 1972 to $20.85 per man-hour in 1979, but dropped to $18.90 in 1982. Between 1972 and 1979, the average annual rate of growth was 1.8 percent, but productivity fell 8.5 percent in 1980, 0.8 percent in 1981, and 0.2 percent in 1982. The downturn during the last 2 years resulted from the sharp drop in economic activity with production levels well-below available capacity.

The continued modernization programs by a number of bearing companies, including the introduction of numerically controlled machine tools, computerized manufacturing, industrial robots and use of advanced inspection machinery, should assist in increasing future productivity.

TABLE 14

OUTPUT PER PRODUCTION WORKER, MAN-HOUR

Year	Value of Shipments (1972 $)	Production Worker Man-Hour	Value of Shipments (PWMH*)
1982	1,139.5	60.3	18.90
1981	1,571.1	83.0	18.93
1980	1,585.7	83.1	19.08
1979	1,820.3	87.3	20.85
1978	1,728.0	86.9	19.88
1977	1,621.8	82.4	19.68
1976	1,565.3	79.6	19.66
1975	1,533.3	78.8	19.46
1974	1,773.5	92.5	19.17
1973	1,786.4	91.6	19.50
1972	1,530.5	83.4	18.35

* = Production Worker Man-Hour.

The most efficient and most profitable production of bearings depends on long runs, with a minimum of retooling. In the past, the speed of ball header equipment has increased and the development and adoption of better die materials has extended the life of dies used in the heading operation, helping to reduce downtime. The adoption of meehanite plate has increased grinding speeds and eliminated the need for secondary grinding of balls. The production of other components, such as the inner and outer rings, has benefited from changes in automatic screw machines which turn out basic blanks. Increasingly better materials used in the manufacture of cutting tools has led to greater cutting speeds and reduced downtime.

The adoption by most manufacturers of electronic equipment to control and operate automatic screw machines has eliminated the periodic operator checking of test blanks for precise size and subsequent machine shut-down for making necessary adjustments and subsequent loss of productivity. Great improvements in furnaces have increased efficiency in heat treating operations and changes in gas burners and electric elements have permitted acceleration in raising temperatures. The use of atmosphere-controlled, continuous rotary retort furnaces has enabled producers to harden balls on a continuous flow basis instead of by the batch method. Finally, improvements in materials handling equipment and automatic packaging equipment have helped improve productivity.

Current Industry Performance

No official ball and roller bearings industry shipments data is available for the current period. Shipments in 1983 dropped slightly from the 1982 level and are expected to increase almost 9 percent to about $1.2 billion in 1984 (measured in constant dollars). Total employment dropped from 42,800 in 1982 to 38,500 in 1983 and may expand to over 44,500 in 1984. The number of production workers fell from 42,800 in 1982 to 29,800 in 1983 and are expected to increase to over 35,000 in 1984. Production worker wages increased about 4.9 percent in 1983 to $11.08 and about 7 percent in 1984 to $11.87. The ball and roller bearings industry in 1985 is expected to expand its shipments about 6 percent to about $1.3 billion in constant dollars.

United States exports may increase about 5 percent in 1985 to $340 million and imports are expected to reach $600 million in 1985, an increase of almost 15 percent over 1984.

III. INDUSTRY INTERNATIONAL COMPETITIVENESS

Competitive Position of U.S. in World Market

Production

Sixteen companies in six countries account for an estimated 75 percent of the Free World ball and roller bearing production. Seven of the major producers manufacture in the United States: Fafnir Bearing Division of Textron, Inc.; Federal Mogul Corporation; TRW Bearing Division of TRW; New Departure - Hyatt Division of GM Corporation; SKF Industries; The Timken Company; and the Torrington Company. Timken, Fafnir and Torrington are U.S. companies with international affiliates selling throughout the world from plants in several countries. A United States Board of Trustees controls Swedish-owned SKF Industries of Philadelphia. SKF and TRW export to a lesser degree than Timken, Fafnir, and Torrington. The New Departure - Hyatt Division of GM and Federal Mogul, both automotive oriented, market their bearings mainly in the United States. The other nine major manufacturers and their home countries are FAG (West Germany), INA (West Germany), Koyo (Japan), NSK (Japan), Nachi (Japan), NTN (Japan), RHP (United Kingdom), SKF (Sweden), and SNR (France). All nine companies have overseas affiliates. Except for SNR, all have manufacturing or assembly plants, sales affiliates or both in the United States.

In 1982, ball and roller bearing producers in the U.S. shipped bearings valued at $2.9 billion. Japanese production amounted to $1.7 billion and production in Western European countries exceeded $3 billion. (Table 15) No hard data is available on total production in the Eastern European Bloc countries, but a recent report (Stankoimport Review No. 62-4-1980) indicates that the annual production of the Bloc's bearing industry, known as the Organization for Cooperation of Bearing Industries (OCBI), exceeds 1 billion units, which would closely parallel the 996 million units produced in the U.S. in 1982.

Most Free World bearing production facilities are operating substantially below capacity levels. Most have shown decreases in production since the 1980-1981 peak. Production in Japan reached $1.7 billion in 1980 and remained at virtually the same level through 1983.

The continuing relatively high level of shipments is made possible through the increasing production of automotive products and some expansion in industrial equipment shipments for world market sale.

TABLE 15

BEARINGS PRODUCTION
SELECTED COUNTRIES, 1972-1982
(Millions of Dollars)

Year	United States	Japan	West Germany	United * Kingdom	France	Sweden
1972	1,419	605	N/A	N/A	N/A	N/A
1973	1,696	857	N/A	280	N/A	93
1974	1,950	1,078	N/A	333	297	123
1975	2,046	990	974	406	349	113
1976	2,195	920	915	469	335	116
1977	2,445	1,047	1,098	524	353	126
1978	2,780	1,350	1,277	591	411	143
1979	3,238	1,441	1,502	689	510	196
1980	3,262	1,655	1,737	830	587	198
1981	3,583	1,653	1,446	N/A	509	167
1982	2,869	1,661	1,394	N/A	440	N/A

* United Kingdom figures inflated by inclusion of plain bearings.

SOURCES: Japan Economic Yearbook, various years. United States Current Industrial Reports, MA35-Q, various years. Official Industrial Production Statistics for France and West Germany. United Kingdom statistics from CSO Annual Abstract of Statistics 1982 Edition.

World Trade

During the last 10 years, Free World trade in bearings by leading manufacturing countries tripled, exceeding $3.2 billion as shown in Table 16. Since 1967, the U.S. share of the world market dropped from 22 percent to a current level of under 12 percent. Sweden and the United Kingdom also lost market shares during the 1967-81 period, but the following countries increased position during this period: West Germany (21 to 24 percent); Japan (15 to 18 percent); France (6 to 10 percent); Italy (5.7 to 6 percent). The market share of countries other than the seven major exporters listed in the table has increased from 8 percent in 1967 to 14 percent in 1981. Price is reported to be the dominant factor in the shifting shares of world market trade and some countries such as Romania and Hungary are reported to be exporting at any cost in an effort to obtain market shares.

Exports from Singapore, a new entrant in the 1970's, grew from a negligible amount in 1973 to about 3 percent of the world market in 1981. Singapore's exports have significantly affected the U.S. market in the category of radial ball bearings 30mm and under O.D. The Soviet Bloc countries are also expanding their presence in the world market; for example, Romania is already exporting tapered roller bearings to the U.S. market. (See Table 16 and Figure 3.)

TABLE 16

U.S. SHARE OF EXPORTS BASED ON
14 MAJOR SUPPLIER COUNTRIES
BALL AND ROLLER BEARINGS
(Millions of Dollars)

Year	14 Countries	U.S. Dollar	U.S. % of Total	W. Germany Dollar	W. Germany % of Total	Japan Dollar	Japan % of Total
1967	399.2	88.3	22.1	85.4	21.4	58.7	14.7
1971	743.9	104.0	14.0	180.2	24.2	179.9	24.2
1975	1,637.7	204.4	12.5	405.1	24.7	390.0	23.8
1979	2,591.1	295.5	11.4	734.3	28.3	481.5	18.6
1980	3,150.7	373.9	11.9	897.4	28.5	555.7	17.6
1981	3,236.4*	381.9	11.8	773.5	23.9	585.8	18.1

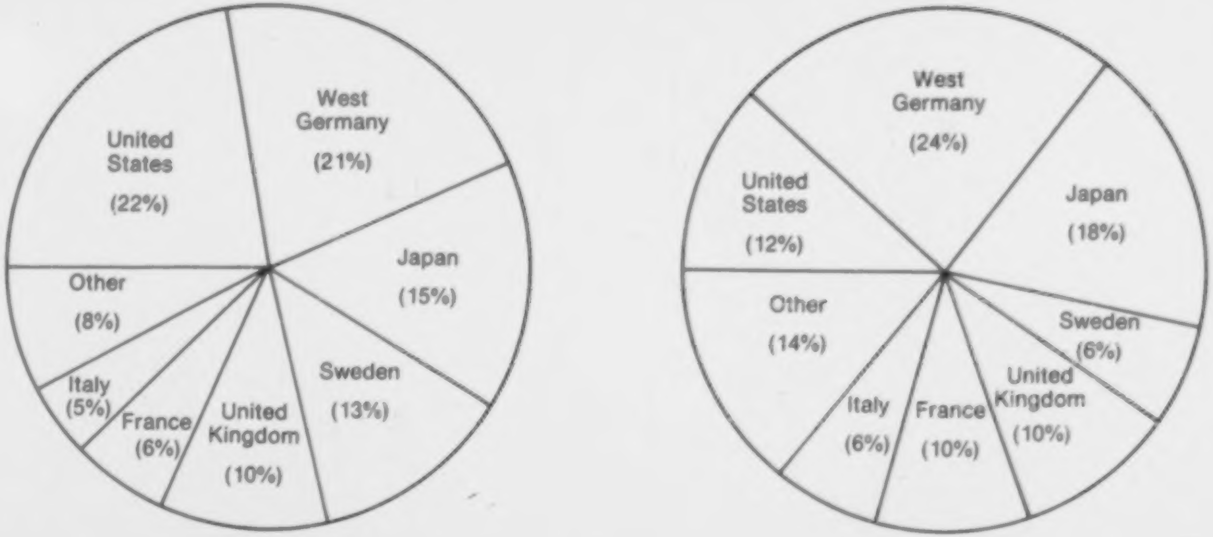
TABLE 16 (cont'd)

Year	France $	France % of Total	United Kingdom $	United Kingdom % of Total	Italy $	Italy % of Total	Sweden $	Sweden % of Total
1967	41.2	10.3	51.6	12.9	22.6	5.7	18.0	4.5
1971	66.1	8.8	63.5	8.6	52.8	7.1	32.9	4.4
1975	163.7	10.0	124.8	7.6	92.5	5.6	119.0	7.3
1979	275.8	10.6	196.9	7.6	188.8	7.3	180.1	7.0
1980	328.9	10.4	263.7	8.4	229.5	7.3	213.5	6.8
1981	313.9	9.7	320.4	9.9	194.2	6.0	203.9	6.3

* Value estimated based on U.S. actual.

Figure 3

Shares of Total World Exports
Ball and Roller Bearings



1967
$399 Million

1981
$3,236 Million

Competitive Factors

The ball and roller bearing industry is one of the forerunners in international standardization. Bearing standards, developed in Europe, have led to the introduction of bearings in metric dimensions for many years. The International Standards Organization (ISO), the Roller Bearing Engineering Committee and the Annular Bearing Committee set strict dimension and tolerance standards. The resulting commonality of quality bearings in specific type and size ranges has contributed to creation of a highly competitive world market. Customer requirements create the overall demand for bearings. The resulting climate has led to increased price competition and, at times, charges of unfair trade practices, i.e., selling at prices below cost made against some foreign competitors striving to gain market shares in the United States and Europe.

From the viewpoint of the United States' ball and roller bearing industry, the world market consists of four different areas: (1) the United States which is an open market, (2) Japan which imports only by license and permits limited competition with Japanese-made bearings; (3) The Soviet Bloc industries that are government-owned and controlled and market entry closed except for licensed imports on a "need" basis; and (4) other countries which vary from "open" to restrictively protectionist, excluding all bearing types produced domestically.

United States' companies are generally investor-owned, publicly-held corporations subject to the pressures and accountabilities imposed on such firms by the public. Major foreign competitors sometimes have a different status and different objectives. World market share, maintenance of high employment levels, and the diversion of excess products into world markets can be top priority objectives.

Generally, bearings are sold worldwide through two basic channels: (1) direct-to-customer manufacturing industries, and (2) through wholesale distributors. About 60 percent of industrial sales to original equipment manufacturers in the U.S. are direct; the balance, including replacement sales, are through distributor networks. In most other countries with greater import and export activity, distributors play a larger role.

U.S. manufacturers provide engineering services, follow-up inspections and trouble-shooting assistance. However, these services represent an important cost component that puts U.S. manufacturers at a competitive disadvantage in supplying the higher volume, lower precision bearing markets. Although our competitors in the EEC often provide similar services for their customers, competitors in other countries such as Japan and Singapore have concentrated their efforts in supplying the profitable high volume lines with minimal engineering and follow-up service.

Production Costs and Technology

The manufacture of bearings requires skilled labor and machinery and equipment of advanced technology. For some machine operations, such as a turning or grinding machine set for long-run operations, the skill requirements for operators are not as high as those for the production of higher precision bearings. The latter require advanced combination set-up operator skills, additional tool and die maker skills, and professional design and sales engineering skills. Generally, production machinery and equipment inspection and measurement tools are more sophisticated and expensive for the higher precision bearings, particularly those used for aircraft and aerospace applications. Higher technology devices now being introduced will reduce the skill requirements for measurement and inspection functions.

As indicated in section II, "Capital Investment", capital equipment investments by U.S. manufacturers averaged $114 million per year equal to about 4.8 percent of the industry value of shipments. Substantial investments have been made by the bearing industries of Japan, West Germany and the Swedish group of SKF for the purchase of machinery and equipment similar to that used in the U.S. Consequently, none of the major producers has a significant advantage in production technology.

RIV-SKF, the Italian subsidiary of Swedish SKF, has been experimenting with the use of ceramic balls for main shaft bearings to meet the increased operating temperatures and higher rotational speeds associated with better fuel consumption in advanced aircraft engines. In addition, Japanese firms are also conducting research in the area of fine ceramic bearings, reported to feature outstanding performance and strong resistance to high temperatures, abrasion and corrosion.

In the United States, The Norton Company and Federal Mogul Corporation--in addition to SKF--have developed ceramic bearings for use in special high temperature, high speed applications. At the present stage of development, manufacturers of fine ceramic bearings face difficult costly production problems. Reportedly their production costs are running several thousand times greater than for comparable sized high performance steel bearings.

To remain competitive in the future world market, U.S. companies must continue their research and development programs. However, in the near term, higher manufacturing costs will limit ceramic bearings to very selective market applications. Their future acceptance during the next decade will depend upon successes attained in reducing manufacturing costs.

Once competitive, fine ceramic bearings are expected to find usage in aircraft and space vehicles--which require components light in weight; in jet engines and rotating parts of furnaces and high temperature air blast devices--all requiring thermal resistance; and as bearings for machinery using no lubrication such as vacuum pumps.

IV. ECONOMICS OF THE INDUSTRY

Major Cost Components

The prime cost components in the manufacture of bearings are materials and employment. In the United States, material costs, predominantly carbon and alloy steel, represent about 39 percent of the value of industry shipments Total employee payroll represents over a 28 percent share. In addition, continuing investments in plant and equipment and energy costs are important, each equaling about 5 percent of the bearings industry's value of shipments.

Cost of Materials

The rising cost of steel has become increasingly critical to the domestic industry. Both European and Japanese manufacturers enjoy substantial cost advantages. The adoption of quotas on foreign steel imports into the United States could assist several major U.S. bearing manufacturers, i.e., those with their own steel producing facilities to compete with U.S. bearing producers that formally purchased steel abroad, but it could adversely affect the U.S. industry in competition with foreign producers.

The following table lists steel prices for the major bearing manufacturing countries.

TABLE 17

STEEL LIST PRICES
(Dollars Per Metric Ton)

Year	United States	Japan	West Germany	United Kingdom	France
1979	476	422	478	514	472
1980	513	432	512	600	519
1981	577	463	421	531	425
1982	605	421	459	504	437
1983	610	446	430	455	397

SOURCE: Paine Webber Mitchell Hutchins, World Steel Dynamics

Analysis of the above figures indicates that the U.S. manufacturers who have depended on U.S. steel products have had higher costs since 1979. In 1979, all the listed competing countries, except Japan, were paying close to the same price for steel. The Japanese list price for steel was about 11 percent below the U.S. price in 1979. But by 1983, the U.S. list price for steel had increased 28 percent over the 1979 price and, at that level, substantially exceeded the steel prices of major competitor countries. The percentages below the U.S. steel price in 1983 were as follows: Japan (-27 percent); West Germany (-30 percent); United Kingdom (-25 percent); and France (-35 percent).

Labor Costs

Specific data is not available on bearing industry labor costs in overseas competitor countries. But the table below indicates the relative U.S. labor cost disadvantage in the world bearings market for the 1979-81 period by using data from a broader statistical reporting category.

The table indicates that in 1981, latest data available, the U.S had hourly compensation costs substantially above those of Japan, the United Kingdom and France and the increase in costs from 1980 to 1981 placed the U.S. 9 percent higher than those in West Germany for the first time in several years. Japanese hourly compensation costs dropped from the equivalent of 65 percent of the U.S. cost in 1979 to 61 percent in 1981.

TABLE 18

HOURLY COMPENSATION COSTS - MACHINERY, EXCEPT ELECTRICAL, MANUFACTURING
(Dollars)

Year	United States	Japan	West Germany	United Kingdom	France
1979	9.87	6.46	11.82	5.74	8.46
1980	10.82	6.55	12.97	7.54	9.86
1981	12.00	7.31	10.98	7.29	8.94

SOURCE: Unpublished data, Bureau of Labor Statistics, U.S. Department of Labor

Labor Productivity

Trends in labor productivity for the U.S. bearings industry closely parallel those for all manufacturing. The following table on comparable trends provides an indication of shifts in the U.S. competitive position in the world market for bearings. No specific bearings industry data are available on productivity trends in major manufacturing countries.

During the periods 1960-81, 1960-73, and 1973-81, the U.S. had the lowest average annual percentage increases in manufacturing productivity of any major bearing producing country. Japan shows the greatest increases in productivity averaging 9.2 percent per year for the 1960-1981 period in comparison with a growth rate of 1.7 percent for the United States. Growth rates declining from the 1973 rate characterized all countries except Germany, Sweden (2.2 percent) and the U.K. (2.2 percent) show rates of increase only slightly higher than the United States (1.7 percent) for the 1973-81 period while France and West Germany maintained annual increases of about 4.5 percent, and Japan, a 6.8 percent rate of increase. The annual percentage changes in all of the listed countries are substantially lower for the 1973-1981 period than for the years 1960-1973, and not a phenomenon peculiar to the United States. However, U.S. productivity growth has not equalled that of its principal competitor, Japan, during any year of the 1960-1981 period. Extensive capital investments by U.S. bearings manufacturers in more productive machinery and equipment starting in late 1970 and continuing into 1984 should result in some improvement in U.S. productivity.

Table 19 indicates that rates of productivity growth by Japan and other major foreign competitor countries are advancing more rapidly than those in the United States. However, since the U.S. base productivity levels were higher than most other countries no conclusions can be made from the table concerning comparable levels of productivity.

Research has not uncovered any case of a competitor nation subsidizing interest rates to manufacturers of bearings.

Energy Costs

Although energy prices have steadily risen, the United States industrial sector, in general, faces lower costs than most of its foreign competitors.

TABLE 19

ANNUAL PERCENT CHANGES IN
MANUFACTURING PRODUCTIVITY, 1960-1981

Productivity (Output Per Man-Hour)	United States	Japan	France	West Germany	United Kingdom	Sweden
1960-1981	2.7	9.2	5.5	5.2	3.6	5.0
1960-1973	3.0	10.7	6.0	5.5	4.3	6.7
1973-1981	1.7	6.8	4.6	4.5	2.2	2.2
1974	-2.4	2.4	3.5	5.4	.8	3.6
1975	2.9	3.9	3.1	5.3	-2.0	-.4
1976	4.4	9.4	8.2	7.1	4.0	1.0
1977	2.5	7.2	5.1	4.9	1.6	-1.5
1978	.9	7.9	5.7	3.3	3.3	4.3
1979	.7	8.9	4.9	4.9	3.3	8.4
1980	.2	6.8	1.6	1.4	.6	1.2
1981	2.8	3.2	1.6	2.7	5.9	.1

SOURCE: "International Trends in Productivity and Labor Costs" Monthly Labor Review, December 1982.

Cost of Capital

Central Reserve Bank discount rates to National Banks provide the best measure available of capital costs in the bearings-producing nations. These appear in Table 20.

TABLE 20

CENTRAL BANK DISCOUNT RATES

Year	United States	Japan	West Germany	United Kingdom	France
1979	12.00	6.25	6.00	9.50*	12.98
1980	13.00	7.25	7.50	9.50*	15.11
1981	12.00	5.50	7.50	9.50*	13.03

* = Treasury bill rates in the absence of discount rates.

SOURCE: International Monetary Fund's International Financial Statistics.

Since the early 1970's, energy costs have been rising, but this increase in costs has affected all bearing-producing countries, not just the United States. In fact, the United States has averaged lower costs on all major energy sources (light fuel, heavy fuel oil, natural gas, electricity) than almost all other major bearing-producing nations. Japan has particularly high energy costs for electricity and natural gas. In 1982, electricity in Japan cost 9.1 cents per kilowatt hour versus only 4.9 cents in the United States, and in Sweden, 3.1 cents.

Table 21 and Figure 4 show comparable fuel costs for the United States and other major bearing-producing countries for the period 1978-1982.

In summary, U.S. bearing manufacturers face substantially higher labor compensation costs (including wages, fringe benefits, and employer costs) than any of their major foreign competitors. In 1981, labor compensation in the United States was 64 percent higher than equivalent compensation in Japan, and 9.3 percent higher than that in West Germany.

Steel, the major input for bearings production, carries a higher cost in the United States than abroad. For example in 1983, U.S. manufacturers paid $610 per metric ton for steel, while their competitors in Japan paid $446, and in Germany, only $430 per metric ton. Manufacturers do have the option of buying imported steel, and some companies even make their own. However, quotas could adversely affect the competitive position of the U.S. bearing industry in competition with foreign producers.

The Central Bank Discount rate, a good measure of the relative rates at which money is loaned to manufacturers for capital improvements, is presently higher in the U.S. than in any major foreign competitor country.

U.S. manufacturers face lower energy costs in general than their foreign competitors. They have a substantial advantage over Japan with its high energy costs.

Another factor is the effect of the exchange rate on the real cost of buying and/or selling ball and roller bearings. For the last 2 to 3 years, the U.S. dollar has been very strong relative to the currencies of major foreign competitors. To take one example, in 1979 there were 1.73 Deutsche Marks to the dollar, but the exchange rate at the end of 1983 was 2.72 DM/$, an increase of 57 percent. (See Table 22) The strong dollar acts to make U.S. bearings relatively expensive abroad and, simultaneously, makes foreign bearings relatively inexpensive in the United States.

TABLE 21

WORLD ENERGY COSTS - (INDUSTRIAL SECTOR)

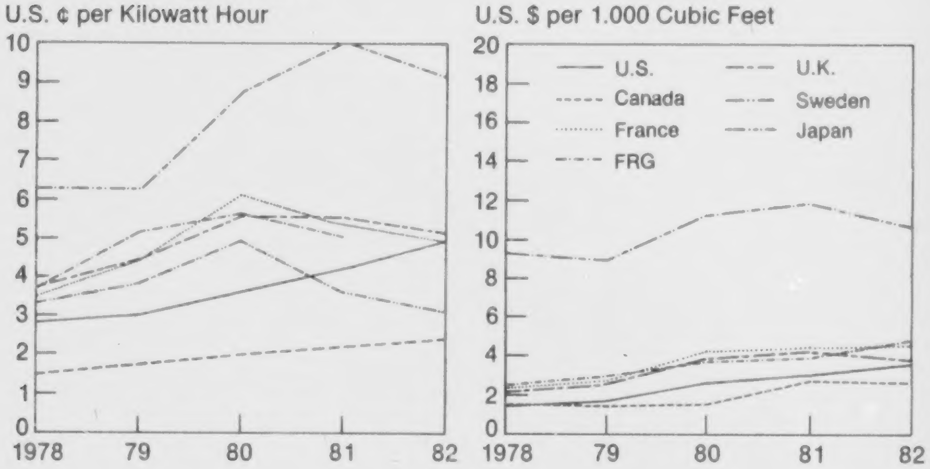
Year	United States	Canada	France	West Germany	United Kingdom	Sweden	Japan
Light Fuel (U.S. ¢ Per Gallon, Including Taxes)							
1978	39.25	46.00	60.75	52.0	48.25	52.75	N/A
1979	57.5	49.25	79.25	92.0	72.5	79.0	N/A
1980	83.5	59.75	118.25	114.5	113.25	120.25	N/A
1981	108.0	83.0	119.0	106.0	112.25	126.75	N/A
1982	105.5	99.25	116.0	109.0	106.25	132.5	N/A
Heavy Fuel Oil (U.S. Dollars/Barrel - Average Per Year)							
1978	11.78	13.80	13.99	15.59	15.36	16.63	N/A
1979	15.98	15.39	18.32	20.62	21.29	25.02	N/A
1980	21.17	18.69	27.38	28.01	32.20	35.28	N/A
1981	28.51	26.95	30.07	31.19	33.89	43.46	N/A
1982	25.86	32.85	28.58	28.47	31.28	40.27	N/A
Natural Gas (U.S. Dollars/1,000 Cubic Feet)							
1978	1.41	1.42	2.35	2.55	2.13	N/C	9.29
1979	1.87	1.52	2.73	2.88	2.60	N/C	9.02
1980	2.52	1.69	4.19	3.74	3.88	N/C	11.32
1981	3.08	2.80	4.46	3.90	4.12	N/C	11.95
1982	3.71	2.68	4.53	4.82	3.84	N/C	10.61
Electricity (U.S. ¢ Per Kilowatt Hour)							
1978	2.8	1.5	3.5	3.7	3.7	3.3	6.2
1979	3.0	1.7	4.4	5.1	4.4	3.8	6.2
1980	3.6	2.0	6.1	5.6	5.5	4.9	8.7
1981	4.2	2.2	5.3	5.0	5.5	3.6	10.0
1982	4.9	2.4	4.9	N/A	5.1	3.1	9.1
Steam Coal Prices (U.S. Dollars/Short Tons)							
1978	N/A	39.92	64.59	82.80	40.48	64.76	34.59
1979	N/A	39.12	81.64	93.66	53.78	72.51	37.73
1980	35.13	39.57	104.67	109.08	74.35	77.66	47.0
1981	39.52	43.89	99.14	102:74	72.80	78.93	59.02
1982	41.02	46.98	88.83	101.25	75.98	72.39	59.34
Metallurgical Coal Prices (U.S. Dollars/Short Ton)							
1978	N/A	57.21	108.92	56.69	N/A	53.59	54.13
1979	N/A	58.45	124.34	59.44	N/A	58.06	55.18
1980	56.24	60.20	140.42	64.69	N/A	60.77	59.75
1981	62.45	62.77	128.84	71.67	N/A	70.72	64.56
1982	64.77	64.32	118.55	72.69	N/A	71.14	68.03

SOURCE: International Energy Prices, 1978-1982, Energy Information Administration, U.S. Department of Energy, DOE/EIA-0424(82)

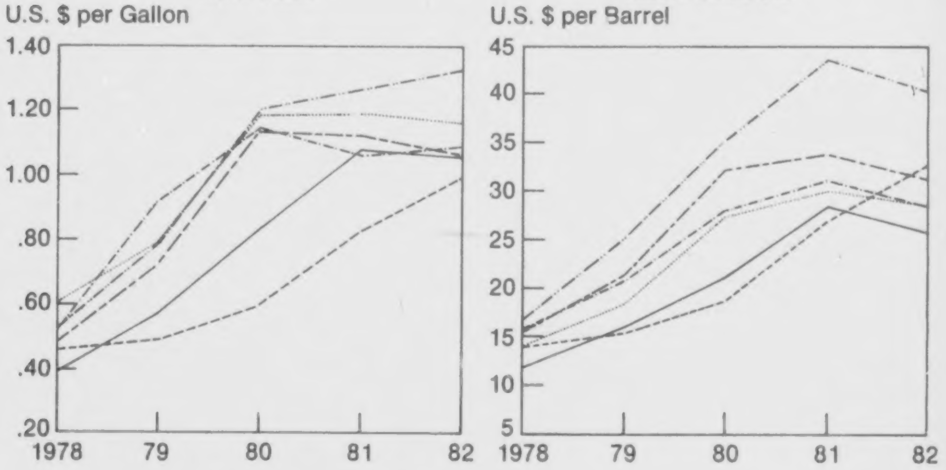
Figure 4

World Energy Costs in the Industrial Sector (Includes Taxes)

ELECTRICITY **NATURAL GAS***



LIGHT FUEL* **HEAVY FUEL OIL***



SOURCE: International Energy Prices, 1978-1982
Department of Energy

* Data not available for Sweden and/or Japan

All of these cost factors, and others which account for smaller percentages of total manufacturing costs, along with the exchange rate, combine to make U.S. bearings more expensive than those of U.S. competitors and give the Japanese, in particular, a competitive advantage.

TABLE 22

EXCHANGE RATES
IN MAJOR BEARINGS PRODUCING COUNTRIES

1977-1983

Last Quarter	Japan Yen/$	West Germany Deutsche Mark/$	France Francs/$	United Kingdom Pounds/$	Sweden Kronor/$
1977	240.00	2.11	4.71	.52	4.67
1978	194.60	1.83	4.18	.49	4.30
1979	239.70	1.73	4.02	.45	4.15
1980	203.00	1.96	4.52	.42	4.37
1981	219.90	2.25	5.75	.52	5.57
1982	235.00	2.38	6.73	.62	7.29
1983	232.20	2.72	8.35	.69	8.00

SOURCE: International Financial Statistics, Volume 37(4), April 1984, IMF.

V. OTHER FACTORS AFFECTING INTERNATIONAL COMPETITIVENESS

Future World Demand For Ball and Roller Bearings

Table 23 shows the level of imports of ball and roller bearings by various countries, and the United States share of those imports. From this table, it becomes apparent that the U.S. share of foreign markets has been decreasing over time. For the entire period 1970-1980, only China and Taiwan show continuously increasing proportions of ball and roller bearing imports from the United States. Unfortunately, the market for bearings in both areas is small, as is the U.S. share of these markets.

Canada, Brazil, Mexico, and West Germany have increasing imports from the U.S. for the 1975-1980 period only. The increase over this 5-year period is particularly large for Mexico, where the U.S. share of the market rose from 44.9 percent in 1975 to 67.2 percent in 1980. Mexico has also increased the absolute level of its imports, by about 19 percent per year. These two trends may combine to make the Mexican bearings market one of the most important and dynamic in the future provided their economy continues to show improvement.

Canada is a vital market for U.S. bearings (63 percent of its imports are from America), and probably will remain so in the next decade. Although the growth rate of Canada's imports has declined, Canada remains one of the largest markets for bearings, particularly U.S. bearings. The duty-free treatment provided in the Automotive Products Agreement continues as a major influence on U.S./Canadian trade in bearings.

United States exports as a percentage of the total share of imports by other nations has been gradually declining over the last decade. Countries in which the U.S. had a substantial market share, but has lost some of its share over the last few years, include the United Kingdom (from 28.5 percent market share in 1970 to 10.4 percent in 1980), Korea (from 47.4 to 7.0 percent), and Singapore (36.7 to 7.8 percent). In all cases, the actual level of shipments from the U.S. has increased over the decade, but the U.S. share of imports relative to other bearing-exporting countries has declined severely.

TABLE 23

BALL AND ROLLER BEARINGS
FOREIGN COUNTRY IMPORTS AND U.S. SHARE OF IMPORTS, 1970-1980
(Millions of Dollars)

Country	1970	U.S. Share	1975	U.S. Share	1980	U.S. Share	- Growth Rate of Imports - 1970-75	1975-80	1970-80
Canada	45	64.6%	93	62.0%	149	63.4%	15.5%	9.9%	12.7%
Brazil	15	21.4	72	15.1	89	17.7	37.0	4.2	19.5
Mexico	14	49.8	33	44.9	79	67.2	18.7	19.0	18.9
Belgium	21	17.2	47	15.5	100	12.8	17.4	16.3	16.9
France	52	17.2	130	10.1	262	9.2	20.0	15.1	17.5
W.Germany	61	9.2	175	3.5	409	4.6	23.5	18.5	21.0
Italy	41	8.8	99	6.5	305	2.4	19.3	25.5	22.2
Netherland	20	13.0	35	13.0	68	9.3	11.8	14.2	13.0
U.Kingdom	34	28.5	90	15.3	181	10.4	21.5	15.0	18.2
Sweden	12	8.4	57	2.5	106	1.6	36.5	13.2	24.3
Switzer.	17	3.6	36	2.2	67	1.7	16.2	13.2	14.7
~~Spain~~	23	6.0	48	8.0	80	4.1	15.9	10.8	13.2
China	17	0.0	27	0.2	6	4.1	9.7	-28.0	-20.0
Japan	4	65.4	9	62.5	17	59.8	17.6	13.6	15.6
India	7	20.0	11	13.5	53	12.6	9.4	37.0	22.5
Singapore	2	36.7	24	9.4	76	7.8	65.0	26.0	44.0
Korea	1	47.4	6	8.4	18	7.0	43.0	25.0	33.5
Taiwan	3	6.9	N/A	N/A	24	12.9	N/A	N/A	23.0

SOURCE: Market Shares Reports, National Technical Information Services, U.S. Department of Commerce, 1970-1980.

NOTE: Country listings limited to major foreign markets.

The growth rate of bearings imports in various countries provides one measure of potential future demand for U.S. bearings. The countries which show the greatest potential (i.e., the greatest growth rate of bearings imports) from 1970 through 1980 (See Table 23), include Singapore (44 percent per year); Korea (33.5 percent), Sweden (24.3 percent), and India (22.5 percent). India has an especially high growth rate (37 percent) for the 1975-1980 period.

Another measure of future demand for ball and roller bearings abroad is the output trends of major bearing-consuming industries in foreign countries. These industries include motor vehicles and parts, metal products, machinery and transport equipment, with the automotive industry the largest single bearings consuming industry.

Motor Vehicles and Parts

The motor vehicles industry accounts for almost a third of ball and roller bearing consumption. Table 24 shows production trends in this industry for the years 1972-1982 for the top eight motor vehicle-producing countries. In general, the industry seems to have passed its peak, which occurred around 1978-1979 for most countries. In the latter half of the decade, all countries, except Japan and the Soviet Union, show negative average annual growth rates. Japan alone has maintained a relatively steady pattern of growth over the 10 years, and has basically taken the leadership position in automotive production, a position which the United States formerly occupied.

If the motor vehicle industry follows the trends of the last 5 to 6 years, U.S. ball and roller bearing manufacturers must prepare for shrinking demand for their products by both domestic and foreign vehicle manufacturers.

On paper, Japan offers the most promising market for bearings in the future. However, doubt exists that U.S. manufacturers will capture much of the increased Japanese demand even following reduction of the 6 percent duty. Japan itself is the chief rival of the United States in bearings production, importing only a small portion of total consumption.

Other Bearing-Consuming Industries

Table 25 presents foreign production indexes and growth rates for the metal products, machinery, NEC and transport equipment industries, all major bearing-consumers. The largest growth rates are occurring in the developing nations, particularly Mexico, Korea and Singapore. Although absolute production levels in these countries are still relatively low, the growth rates suggest the opportunity to expand markets for ball and roller bearing manufacturers.

TABLE 24

WORLD MOTOR VEHICLE PRODUCTION
LARGEST EIGHT PRODUCING COUNTRIES, 1972-1982

(Thousands of Vehicles)

Year	United States	Canada	Japan	United Kingdom	France	Germany	Italy	Soviet Union
1972	11,311	1,430	6,294	2,329	3,328	3,816	1,840	1,379
1973	12,681	1,575	7,083	2,164	3,596	3,949	1,958	1,602
1974	10,071	1,525	6,552	1,937	3,463	3,100	1,773	1,846
1975	8,987	1,424	6,942	1,648	2,861	3,186	1,459	1,964
1976	11,498	1,640	7,841	1,706	3,403	3,868	1,591	2,025
1977	12,703	1,775	8,514	1,714	3,508	4,104	1,584	2,088
1978	12,899	1,818	9,269	1,607	3,508	4,186	1,656	2,151
1979	11,480	1,632	9,636	1,478	3,613	4,250	1,632	2,173
1980	8,010	1,374	11,043	1,313	3,378	3,879	1,612	2,199
1981	7,943	1,323	11,180	1,184	3,019	3,897	1,434	2,198
1982	6,986	1,276	10,732	1,156	3,149	4,063	1,453	2,173
Growth Rates								
1972/ 1977	2.3%	4.4%	6.2%	-6.0%	1.1%	1.5%	-3.0%	8.7%
1977/ 1982	-12.3%	-6.8%	4.7%	-8.2%	-2.2%	-0.2%	-1.8%	0.8%
1972/ 1982	- 4.8%	-1.2%	5.5%	-7.1%	- .6%	- .7%	-2.4%	4.8%

SOURCE: World Motor Vehicle Data, 1983 Edition (MVMA).

Canada has experienced substantial growth relative to other developed areas, particulariy in the metal products and machinery sectors. This enlarges one major bearings market for U.S. producers.

The U.S. continues to have a competitive advantage in the higher quality "specials" bearings and should continue to have some potential for export expansion in foreign markets for these products.

Market Development

Although bearings find use as components in products of most industries, the automotive products, heavy equipment, such as agricultural and construction machinery, and other capital equipment industries consume the vast majority. Figure 5 shows the pattern of motor vehicle output in major producing countries and clearly indicates the major U.S./Japanese shift between 1972 and 1982. In that period, U.S. shipments dropped from 11.3 in 1972 to 7.0 million in 1982 and Japanese production increased from 6.3 in 1972 to 10.7 million in 1982.

Worldwide, separate manufacturing facilities produce ball bearings and roller bearings. Production is to rigid international standards. Machine tool sizes impose further manufacturing restrictions by size and type of bearing.

Although many large firms produce a full range of ball or roller bearings, many smaller firms concentrate their output in particular types and/or size ranges with the consequential limitation of end-use markets. However, the advantage of concentrated production or rationalization is that it often results in the production of longer runs of particular sizes and type with accompanying reductions in production costs.

Rationalization of production facilities accepted in Japan, is becoming more common in other countries not subject to the stringent anti-trust laws that exist in the United States. SKF Industries, a Swedish-owned bearing manufacturer with manufacturing establishments in 12 countries, including the United States, has a long-range goal to rationalize its facilities around the world, concentrating its production of a specific size and type of bearing on a country basis. The specific plans and programs of Japan, Sweden and other countries for the rationalization of production facilities and export plans are not available.

TABLE 25

INDEXES OF PRODUCTION FOR MAJOR BEARINGS CONSUMING SECTORS - SELECTED COUNTRIES 1975 = 100

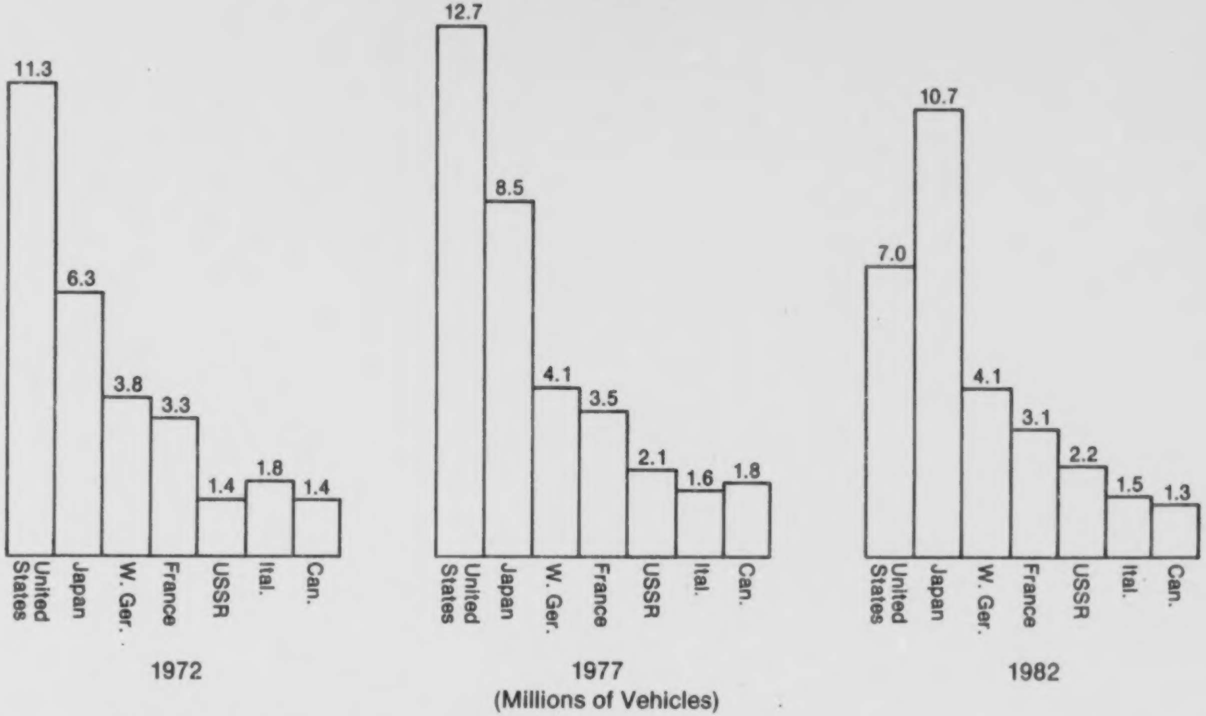
Country	Metal Products			Machinery, n.e.c.			Transport Equip.		
	1972	1981	% Chg.*	1972	1981	% Chg.*	1972	1981	% Chg.*
Canada	91	115	2.5	81	150	7.1	81	103	2.7
Brazil	--	--	--	--	118	4.3	66	92	3.8
Mexico	80	144	6.7	66	181	11.9	61	167	11.8
Belgium	89	107	2.1	81	100	2.4	92	147	5.3
France	98	118	2.1	90	118	3.1	105	114	0.9
W.Germ.	105	116	1.1	102	118	1.6	101	123	2.2
Italy	--	--	--	87	151	6.3	100	141	3.9
Nether.	92	112	2.2	--	107	1.1	102	93	-1.0
U.K.	106	77	-3.5	88	85	-0.4	108	84	-2.8
Sweden	88	96	1.0	82	91	1.2	86	93	0.9
Switzer.	--	--	--	101	103	0.2	--	--	--
Spain	89	111	2.5	82	99	2.1	76	92	2.1
Japan	111	125	1.3	102	163	5.3	90	137	4.8
India	86	120	3.8	79	147	7.1	93	134	4.1
Singapore	105	140	3.2	58	206	15.1	61	206	14.5
Korea	23	311	33.6	53	219	17.1	17	263	35.6

* Annual Growth Rate, 1972-1981
Monthly Labor Review, December 1982

SOURCE: Yearbook of Industrial Statistics, 1981

Figure 5

Motor Vehicle Production
Major Producing Countries
1972–1982



SOURCE: World Motor Vehicle Data, 1983 Edition (MVMA)

VI. ASSESSMENT OF INTERNATIONAL COMPETITIVENESS IN THE FUTURE

Scenario #1.: A Continuation of Current Trends

Under this scenario, we assume that current economic trends discussed in this report will continue over the next few years.

The price of steel, as the major material component of bearings, is vital to the future competitiveness of U.S.-bearing manufacturers. The growth rate of the price of steel was 6.4 percent per year for the 1979-1983 period and this rate can be expected to continue. A factor which could have an impact on the price of steel is the institution of import limitations. Quotas or other measures to limit imports could result in a higher price of steel for bearing manufacturers. Currently, manufacturers buy most steel used for balls for bearings from abroad. The President's decision to seek agreements for voluntary limits on steel exports to the U.S. from some foreign producers could have an influence on the future cost of steel to some U.S.-bearings manufacturers.

Continuing increases in labor costs will confront U.S.-bearing manufacturers in the next decade. If past trends in labor compensation continue, there will be about a 10.2 percent per year increase, while the corresponding rates for Japan would be 6.4 percent and for West Germany, -3.3 percent per year.

U.S. labor productivity can be expected to continue to increase at the modest rate of approximately 2 percent per year. Japan's productivity rate may decline, but even at a rate of about 5 percent per year, it will still surpass the U.S. rate. This differential between productivity growth rates would mean a further loss of U.S. competitiveness in the future. The extensive use of automated production machinery and equipment by the Japanese will continue to provide a competitive advantage even though U.S. firms are beginning to automate their facilities.

Energy price increases have tapered off since the rapid jumps of the late 1970's. Although prices will continue to increase moderately, the United States may expect to retain an advantage over its foreign competitors in energy costs.

Exchange rates are another important factor that will influence the future international competitiveness of the U.S. ball and roller bearings industry. If the U.S. dollar continues to appreciate relative to Western European currencies and the yen, as it has in the early 1980's domestic bearing manufacturers will increasingly lose price competitiveness abroad while foreign bearings will remain relatively inexpensive to import. For the United States, this will mean a growing trade deficit in bearings and possible permanent loss of domestic markets.

In summary, if current trends in costs, productivity, exchange rates, industry structure, government regulations, and consumer markets do not change substantially over the next few years, the U.S. bearings industry will face a future of continuing declines in constant dollar value of shipments. Table 26 presents predictions of ball and roller bearing statistics for 1990, assuming continuance of current trends.

Scenario #2: Improved Economic Conditions

This scenario will analyze the effects of hypothetical changes in present economic conditions and government policies that could favorably influence the U.S. ball and roller bearing industry.

At present, U.S. ball and roller bearing manufacturers face production costs, including material and labor costs, that are substantially higher than those of their foreign competitors. If in the future, some of the current costs trends could be reversed or stabilized, domestic bearings may become more price competitive in international markets. Cost reductions need not occur exclusively in the form of actual falling prices. Productivity, as measured by output per man-hour, could rise significantly, allowing producers to use less labor for the same amount of output. Research and development could lead to more energy-efficient production processes.

All U.S. manufacturers, including the U.S. ball and roller bearing industry, would benefit both at home and abroad from reduction of foreign exchange differentials. A lower domestic interest rate would enable producers to invest in new and improved capital equipment, which in turn would lead to increases in productivity and efficiency. At least one major study ("The Future of the Automobile: The Report of MIT's International Automobile Program") forecasts a strong world automotive industry in the next 20 years, predicting a moderate growth rate of 2.6 percent annually. If the U.S. motor vehicle industry resumes growth, an increase in the demand for ball and roller bearings will follow. Furthermore, since bearings are components in almost every type of mechanical equipment, including computer disk drives and other high technology devices, new markets for bearings will develop with technological innovation.

The projected levels of bearings industry activity as shown in Table 26 can be reached if the macro economic, production and final market factors discussed above develop favorably. A brief summary of general assumptions is shown in the footnote of the table.

TABLE 26

POTENTIAL GROWTH IN SHIPMENTS AND TRADE
1983-1990
(Millions of Dollars)

	Continuation of Current Trend			Improved Economic Conditions		
Ball and Roller Bearings	1983	1990	Annual Rate of Change	1983	1990	Annual Rat of Change
U.S. Product Shipments Current Dollars..........	2,895	4,354	6%	2,895	4,962	8%
U.S. Product Shipments Constant 1972 Dollars....	1,069	1,315	3%	1,069	1,504	5%
Exports..................	253.1	356.0	5%	253.1	493.0	10%
Imports..................	412.0	912.0	12%	412.6	754.0	9%
Trade Balance............	-159.5	-556.0	--	-159.5	-261.0	--
Imports as a Percent of Apparent Consumption..	13.7%	18.6%	--	13.7%	14.4%	--
Exports as a Percent of Shipments............	8.9%	8.2%	--	8.9%	9.9%	

Scenario 1: Continuation of trends during the 1977-1983 period.

Scenario 2: Improved Economic Conditions:

(a) Stabilized material prices and increased use of cheaper imported steel.
(b) Stabilized wages
(c) Increased productivity through increased use of advanced machinery and equipment.
(d) Stabilized energy costs
(e) Weakened exchange rate
(f) Some significant increase in auto and other end-product markets (expanded sales to high tech industries).
(g) Assistance from government programs (e.g., investment tax incentives and relaxation of anti-trust laws.

VII. FEDERAL POLICY ISSUES

National Security

Ball and roller bearings are fundamental components of all machinery containing rotary parts. Ships, aircraft, tanks, radar, weapons systems missiles, trucks, trains, construction machinery, agricultural machinery and machine tools could not function without bearings (see Table 2). They are essential components of most military products and critical in all defense programs. During major war activity, delays in the manufacture and delivery of some bearings products have delayed production of weapons and repairing of military aircraft and other equipment. In the peak period of the Viet Nam conflict, lack of replacement bearings grounded helicoptors in Viet Nam for long periods. Some U.S. bearings producers had military order backlogs extending to 2 years.

Customers with direct defense orders receive preferential treatment under the regulations of the Defense Priorities and Allocations System, coordinated by the Department of Commerce's Office of Industrial Resource Administration. Even so, some producers of special bearings lacked the production capability to satisfy direct defense requirements during the Viet Nam conflict. Some source suppliers of special or patented bearing products caused some of the bottlenecks. However, inadequate domestic capacity to meet demand peaks was a major factor in delayed delivery of military related products.

Miniature and Instrument Bearings

Miniature ball bearings (bearings with an outside diameter of 9 millimeters (0.3543 inches) or less and instrument ball bearings (bearings with an outside diameter greater than 9 millimeters, but no more than 30 millimeters (1.1811 inches) are particularly vital in key defense related applications. The percentage of defense rated shipments to total U.S. shipments for 0-9mm O.D. ball bearings catagories is much higher than the 8-10 percent rate for the ball and roller bearings.

Demand for miniature and instrument bearings grew throughout World War II and the Korean War. Based on ball bearing gyros, gyro technology entered service for aircraft instrumentation and navigational systems in the early 1950's. Virtually all missiles and aircraft depend on miniature and instrument ball bearings. Ships and armoured vehicles share such dependence in instrumentation for navigation, stabilization and weapons systems.

A number of domestic companies filled the growing requirements into the mid-1960's, when foreign competition began to have a significant effect on the U.S. market. Companies such as General Motors' New Departure - Hyatt Division and Fafnir Corporation dropped out of the miniature bearings market. Several other firms including Kubar, FAG, Schatz Federal Mogul Corporation, Microtech Corporation, and Hoover stopped producing instrument bearings.

By the mid-1970's, only seven major U.S. producers continued to produce miniature and precision instrument bearings and only four producers manufactured most of the higher precision (ABEC 5 and over) products in this size range. Today, these facilities continue to supply the majority of U.S. military needs. One of these companies, NMB America, is a wholly-owned subsidiary of Nippon Miniature Bearings, Japan. Another, New Hampshire Ball Bearings, Inc., has received an offer from Minebea Company of Japan to buy all of its shares of outstanding stock. Should Minebea achieve success in its attempt to purchase New Hampshire Ball Bearings, Inc., Japanese companies would have a dominant position in the U.S. miniature and precision instrument bearing industry.

Japanese interests in Japan and Singapore are also the largest suppliers of radial ball bearings in this size range imported by the United States. Unit imports from Japan and Singapore were 70 percent of the U.S. miniature bearing imports and 81 percent of those of the instrument bearing size group in 1983.

Armed Service Procurement Regulation 1-2207

The rapidly growing number of imported ball bearings in the 0-30mm size range starting in the mid-1960's concerned domestic bearing producers and prompted them to seek protection of their specialized production base.

Reportedly, foreign manufacturers have set-up production lines targeted at the high volume items, leaving the lower volume, high production cost items to U.S. producers. The industry expressed concern that this move threatened research and development efforts necessary to maintain world leadership in the state-of-the-art production processes essential to U.S. military programs. The industry filed a petition with the Office of Emergency Preparedness (OEP) in 1969 requesting an investigation under Section 232 of the Trade Expansion Act of 1962, to determine the effect on national security of imports of miniature and instrument precision ball bearings. Because of the reliance of military equipment on the specialized products, both standard and special, the Department of

Defense also expressed concern and supported the domestic producers petition. Following an investigation, the U.S. Department of Defense issued on April 22, 1971, Defense Procurement Circular No. 87, which later became Armed Services Procurement Regulation (ASPR) 1-2207. The regulation mandates purchase from U.S. or Canadian producers of all bearings thirty millimeter (30mm) or less in outside diameter, purchased for Department of Defense Requirements.

In 1976 the Swiss government requested a relaxation of the ASPR regulation to allow importation of a limited amount of bearings for U.S. Defense contracts. The Secretary of Defense denied the request, stating that DOD procurement had become a major factor in maintaining a viable U.S. industrial base for this size group of bearings.

ASPR 1-2207 remains in effect. During its 13-year life, the ratio of imports to total available U.S. supply for this group of bearings has slowly grown from 48 percent in 1971 to about 60 percent in 1982. The volume and value of imports of radial ball bearings by size groups during the 1972-1983 period and the principal supplier countries, Japan and Singapore appear in Table 27.

Economic Impact Case

Following the National Security investigation, the bearing industry, in late 1972, filed an application with the Tariff Commission under Section 201 of the Trade Expansion Act of 1962. The petition requested an investigation to determine the economic impact on producers of ball and roller bearings, including ball bearings with integral shafts and parts, resulting, in major part from concessions granted under previous trade agreements. The Tariff Commission completed its investigation in July 1973, finding injury to the domestic producers of radial ball bearings.

The Commission's report cited an increase in value of imports of ball bearings from $4 million in 1969 to $88 million in 1972; increased import penetration from 26 percent of U.S. apparent consumption in 1968 to 36 percent in 1972; and a level of industry operating profits too low to sustain needed capital investment.

On March 29, 1974, in response to the Commission's recommendation, Presidential Proclamation 4279 increased the rates of tariff duty on radial ball bearings in the 9-100mm size range for the period May 2, 1974 to May 1, 1978. Specific categories and staged duty rates appear in Table 28.

The effects of the tariff increases are shown in Table 29.

TABLE 27

U.S. IMPORTS OF RADIAL BALL BEARINGS
(0-100 mm O.D.)
BY PRINCIPAL SUPPLIER COUNTRIES, 1972-1983
(000's)

Under 9mm O.D.

Year	----Japan-----		--Singapore---		----Total-----	
	Units	Value	Units	Value	Units	Value
1972	2,090	1,350	--	--	2,695	1,627
1973	1,888	1,365	15	8	2,931	1,924
1974	1,116	693	689	496	4,068	1,732
1975	990	517	818	615	2,304	1,560
1976	1,144	494	760	488	2,700	1,410
1977	770	535	994	606	2,877	2,018
1978	1,389	1,320	1,564	952	3,970	3,444
1979	1,347	1,099	1,880	1,187	4,060	3,226
1980	2,026	1,416	4,227	2,746	6,987	4,943
1981	2,026	1,502	3,552	2,463	7,733	5,909
1982	2,367	1,693	2,889	2,567	7,274	7,209
1983	2,279	2,020	4,150	3,197	9,194	7,813
9mm - 30mm O.D.						
1972	39,816	14,435	--	--	43,720	16,751
1973	46,160	20,102	65	43	51,522	23,898
1974	57,653	25,639	1,346	1,056	65,425	31,358
1975	35,642	17,795	765	663	40,806	22,847
1976	42,165	19,642	1,614	1,348	46,319	26,429
1977	43,392	23,078	1,965	1,795	57,002	32,739
1978	52,867	35,299	4,563	4,014	83,549	53,001
1979	46,228	31,810	10,946	7,362	77,524	52,770
1980	48,734	30,275	14,425	10,639	114,377	56,999
1981	50,499	31,844	12,076	9,258	115,128	56,524
1982	34,544	21,728	20,801	16,009	78,800	50,524
1983	38,846	24,547	31,723	15,941	87,119	52,827
30mm - 52mm O.D.						
1972	56,242	20,977	--	--	59,326	23,988
1973	71,748	31,602	--	--	76,757	37,719
1974	63,453	32,415	--	--	68,225	38,425
1975	24,406	15,958	--	--	34,396	24,713
1976	36,178	20,588	--	--	42,013	28,073
1977	29,946	19,165	267	162	42,062	30,146

TABLE 27 (cont'd)

1978	30,448	24,748	--	--	55,469	48,138
1979	28,586	25,078	23	140	68,872	63,761
1980	29,075	25,480	--	--	66,575	62,511
1981	25,770	23,650	--	--	62,765	53,574
1982	23,237	21,566	--	--	53,598	45,993
1983	19,962	18,000	--	--	51,460	41,099

52mm - 100mm O.D.

	----Japan-----		--Singapore---		----Total-----	
Year	Units	Value	Units	Value	Units	Value
1972	19,023	17,295	--	--	22,723	28,166
1973	16,632	15,980	--	--	18,586	24,591
1974	14,997	15,600	--	--	17,270	22,518
1975	11,526	14,515	--	--	14,360	24,540
1976	13,673	17,219	--	--	15,767	24,431
1977	14,623	19,401	--	--	18,075	28,368
1978	17,590	27,506	--	--	23,458	42,380
1979	16,346	29,224	--	--	26,625	57,471
1980	12,243	24,409	--	--	21,571	52,721
1981	12,752	28,182	--	--	21,233	52,078
1982	11,414	26,237	--	--	19,520	49,365
1983	10,883	23,875	--	--	19,753	44,077

SOURCE: Annual FT-246 Reports, Bureau of the Census,
U.S. Department of Commerce

TABLE 28

RATES OF TARIFF DUTY ON RADIAL BALL BEARINGS, 9-100mm
May 1974 - May 1977

Item	Article	May 1, 1974	May 1, 1976	May 1, 1977
	Ball bearings, radial provided for in Item 680.35 of Part 4J of Schedule B:			
923.80	Having an outside diameter of 9mm and over, but not over 30mm and valued not over 60 cents each................	20% ad val	16% ad val	12% ad val
923.82	Having an outside diameter of 9mm and over, but not over 30mm and valued not over 60 cents each................	....do....	....do....	....do....
923.84	Having an outside diameter of over 52mm, but not over 100mm and valued not over $1.30 each..................	3.4¢ - lb. +15% ad val	3.4¢ - lb. +15% ad val	2.6¢ - lb. +11% ad val

TABLE 29

U.S. IMPORTS OF RADIAL BALL BEARINGS
(Millions of Units)

Year	9 - 30mm	30 - 52mm	52 - 10mm	------Total------- Under 9mm - 100mm
1973	51.5	76.7	18.6	146.8
1974	65.4	68.2	17.2	150.7
1975	40.8	34.4	14.4	84.6
1976	46.3	42.0	15.8	104.1
1977	57.0	42.1	18.1	117.2
1978	83.5	55.5	23.4	162.4

Except for an initial increase in the under 9-30mm size group in 1974, probably caused by hasty purchases during the January - May period before the tariff increases went into effect, the total volume of imports of radial ball bearings in the 9-100mm size range showed little change in 1974, dropped over 40 percent in 1975 and did not increase substantially until 1978, after the elimination of the higher tariff on imported bearings. After the special higher tariff duty was dropped in May 1978, imports showed an increase of 38.7 percent in 1978 over 1977. These shifts in import levels clearly indicate that the domestic industry received some relief during the period of increased tariff duties.

General System of Preferences and Other Tariff Issues

The Office of the U.S. Trade Representative, in conjunction with interested Executive Branch agencies, administers the GSP Program in accordance with provisions of the Trade Act of 1974 and the Trade and Tariff Act of 1984.

In 1975, USTR removed all ball bearings and parts from the GSP list, given the perceived import sensitivity of these products. The U.S. duty on ball bearings is 11 percent. Singapore, a country previously listed for GSP treatment for bearings, has become a major factor in the U.S. import market since 1974. U.S. imports of radial ball bearings from Singapore in the below 9mm size range increased from 818 thousand units in 1975 to 4.2 million units in 1983 or 46 percent of total U.S. imports in this size group. Similarly, in the 9 to 30mm size group, U.S. imports from Singapore increased from 765 thousand units in 1975 to 31.7 million units in 1983, and representing 36 percent of imports in this size group. The Japanese-owned Minebea (formerly NMB) facilities in Singapore produced most of these items. The imports from Singapore, combined with direct imports from Japan, account for 70 percent of U.S. ball bearing imports in the under 9mm size group and 81 percent of the imports of ball bearings in the 9-30mm size group in 1983.

The 11 percent ad valorem duty rate established for ball bearings and parts during the Kennedy Round of negotiations in the 1960's has not changed over the years. Although the U.S. trading partners, including Japan and the EEC countries, petitioned for duty reductions during the Tokyo Round of trade negotiations, the importance of the bearings industry to the U.S. national defense and the increasing effect on the industry of imports since the mid-1960's led the President's Special Trade Representative to exempt ball bearings from the negotiations.

These actions are of particular importance considering the fact that the U.S. share of the world export market has decreased from 22 percent in 1967 to about 11 percent in 1983 and the U.S. market penetration by imports has varied from a negligable amount in 1967 to an estimated 15 percent in 1984 in terms of dollars. On a quantitative basis, the ratio of imports to apparent U.S. consumption of the ball bearing segment of the industry is 50-to-60 percent.

Dumping Issues

In 1973, the Timken Company filed a complaint alleging that tapered roller bearings from Japan were being dumped. The Treasury Department (which then administered the law) found that there were sales at less than fair value, and the Intenational Trade Commission found injury, so an antidumping duty order was imposed. The order remains in effect and dumping duties are being assessed.

There has been protracted litigation concerning this proceeding. It is still ongoing. Timken remains dissatisfied with the administration of the law by both Commerce and Treasury and believes the law has been ineffective in reducing unfairly priced imports.

VIII. SUMMARY AND FEDERAL POLICY OPTIONS

Summary

The bearings industry represents almost 2 percent of the value of shipments of all machinery except electrical (SIC 356).

Ball and roller bearings are essential components of all machinery and equipment that contain rotary parts. Accordingly, in addition to direct defense equipment markets, the bearing industry serves the needs of a wide variety of machinery and consumer goods markets.

The stringent dimension and tolerance standards developed by the U.S. Roller Bearing Engineering Committee and the Annular Bearing Engineering Committee of the Anti-Friction Bearing Manufacturers Association, Inc. approved by ANSI and closely related to the ISO standards enable bearings customers to select, with a high degree of confidence, appropriate bearings to fit their specific requirements. The interchangeability of bearings produced by a number of manufacturers enable bearing users to satisfy their requirements from various sources and to shop for competitive prices.

The industry, with a payroll of $889 million, provides employment for almost 43,000 workers. Leading states in employment in 1982 were Ohio, Connecticut, South Carolina and Indiana jointly accounting for 55 percent of total employment.

Materials consumed by the industry, predominantly steel mill products, had a value of $1.2 billion in 1982. The value added by manufacturers exceeded $2 billion.

Overcapacity in some segments currently characterizes the ball and roller bearing industry. Imports have extensively and materially affected the ball bearing segment of the industry and they are becoming a more significant factor in the roller bearing sector.

Some manufacturers have recently faced several years of low, or no, profitability. A few firms have gone out of business or closed production operations. However, others are modernizing. Overall, the industry's profit position is generally better than other general and special machinery industries.

Demand for ball and roller bearings in the U.S. is expected to show little growth during the next several years. More modest sales to the automotive industry, the largest single bearings consumer, have offset the upswing in most industrial bearings consuming markets.

No revolutionary future technological developments which would give the U.S. industry a greater competitive edge are anticipated. The United States is equal to or slightly ahead of world competitors in bearing technology at the present time.

Foreign producers have materials and labor cost advantages. Generally, manufacturing productivity in major competing countries, particularly in Japan, has expanded during the last 10 years at a more rapid rate than in the United States.

Some major U.S. firms are making commitments to increasing their productivity through the introduction of modern and efficient production lines. Improvement of their profitability and competitive position in the U.S. and world markets should follow.

Some firms have strong commitments to Defense Department programs. Military-related sales represent a major share of their total sales.

Specific price comparisons for U.S. and foreign bearings are not available. However, with U.S. imports concentrated in the lower priced high volume product lines, the average values of imported bearings are generally significantly lower than the average values of U.S. manufactured bearings. Some manufacturers report that overseas suppliers are starting to submit lower price quotations on specialized bearings for aircraft engines and accessories applications.

The average values of exported bearings are generally higher than the average value of all U.S.-manufactured bearings. This indicates that export markets exist only for U.S. specialty bearings products and replacement bearings for machinery and equipment previously exported.

The recent downturn in the U.S. economy occurred at a time when depression had hit the world economy. The U.S. industry faced expanding trade deficits. Thus, the industry must now meet the challenge of developing business practices that will place it in an improved competitive position in the world market.

Issues and Options

Issues facing the bearings industry are varied and complex. It is a secondary steel products manufacturing industry in the middle of the production chain. Government policies that may aid the steel industry may not necessarily work to the best interests of the bearings industry or its customer industries. Specifically, dependence on high-quality alloy steel at internationally competitive prices is a key factor in the bearings industry efforts to compete in the marketplace. Viable U.S. automotive industry and industrial equipment markets are also important to the health of the bearings industry.

Key policy issues important to the bearings industry follow:

Tariff and Nontariff Barriers

As a result of the Tokyo Round of trade negotiations the United States ad valorem duty rates on ball bearings stand at 11 percent, but the tariff on roller bearings will decrease 50 percent ending at 6.5 percent in 1987.

Although import duties in the EEC and most developed industrial countries are comparable, some countries still have high duty rates that deny U.S. manufacturers market access. For example, the Australian and Mexican tariffs range as high as 25 percent; Brazil's tariff on bearings is 60 percent. In addition, these and some other countries have non-tariff barriers that hinder or prevent U.S. market access.

OPTIONS:

- In review of foreign governments' economic policies limiting U.S. market access for bearings as well as other products, the United States should develop an updated inventory of specific tariff and non-tariff barriers for use in multilateral and bilateral discussions. In the absence of multilateral negotiations, the United States could negotiate bilateral agreements for removal of trade restraints on bearings, particularly with non-GATT signatory countries.
- Also, the removal of trade restraints on bearings-consuming industrial products would indirectly benefit the bearings industry. Increasing export sales of U.S. industrial products provide increasing sales for bearing manufacturers.

General System of Preferences Treatment

The U.S. Government has not placed ball and roller bearings on the GSP list for developing countries because of existing high imports and U.S. defense sensitivity. However, several countries--including Singapore which has become the largest single offshore supplier of ball bearings in the 0-9mm size range--have petitioned for GSP treatment.

OPTIONS:

- The United States Government could continue to deny petitions to place ball and roller bearings on the GSP-eligible list of products.

Counter Actions to "Unfair" Trade Practices

The question of "unfair" trade practices, in the sense that they contravene U.S. laws and government/industry practices, is a broad issue that has many ramifications. One of the basic signals of the existence of unfair trade practices can be increased import penetration. Claims have been made that the U.S. bearings trade deficit stems from such "unfair" trade practices, particularly in Japan. Since the 1950's the Japanese Government has supported the bearing industry by allowing formation of a rationalization cartel that led to specific production agreements among Japanese bearings manufacturers. Various manufacturers concentrate their production in specific types of bearings to obtain economies of scale and ultimately sell their bearings to each other in order that each can offer his customers a broad line of bearing types and sizes. This rationalization results in lower costs and a very competitive world trade position. Although some U.S. firms tend to specialize in specific sizes and types of bearings, anti-trust law prohibits cooperative action of this type.

In addition, the Japanese Government is funding joint government industry research and development projects for the four major bearing producers. An example is the reported $5 million program to develop specific bearings production equipment to enhance their competitive position in additional bearing markets.

OPTIONS:

- The United States could quantify the effects of these targeting practices and adjudge the fairness of such actions. Identification of "unfair practices" could become the basis for the U.S. to take a more aggressive position in trade negotiations with countries using these practices. However, differences exist between countries in basic laws and traditions that limit the development of consensus on definitions of "unfair." Further, there is a serious question about whether the effects of many targeting practices (e.g., rationalization cartels) can be questioned.

- The United States could strengthen existing U.S. trade laws, providing relief to manufacturers of products subject to "unfair" trade practices, to provide a stronger commitment to flexibility in drafting a program for relief. Industries such as the bearings sector may require forms of relief other than import protection, for example, research and development assistance or financing for modernization and mass production, in order to regain competitive status. This could be done as an amendment to Section 201, or as a separate law. Two of the liabilities of this approach could be potential violations of our Gatt obligations and the unknown but possibly substantial budget implications.

National Security

Ball and roller bearings are fundamental and essential components of most defense as well as civilian machinery and equipment, and essential to industrial mobilization. The U.S. retention of adequate capability to satisfy the demand for these products during any emergency is vital to a strong defense posture.*

Imported products continue to displace U.S. bearings at home and abroad. The U.S. capacity to produce bearings and other essential component products is dwindling. In addition to machinery and equipment losses, of critical concern is the reduction in skilled production employees, engineers and research and development personnel.

OPTIONS:

- The United States could identify potential mobilization supply problem areas such as bearings and support policies that will augment industry efforts to maintain the capability to satisfy essential defense requirements.
- The United States could continue to support and expand existing programs that directly affect defense supporting producers.
- The U.S. Department of Defense ASPR 1-2207 mandating the purchase from U.S. and Canadian producers of bearings, 30mm OD and under, could be expanded to include other sizes and types of bearings.

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* Because of the importance of the industry to national security, an additional study of the national security aspects of the industry will be undertaken by the Industrial Mobilization Working Group of the Emergency Mobilization Preparedness Board.

Other Policy Issues

Other more general policy issues that affect the bearings, bearings supplier and bearings customer industries are listed below.

The Level and Quality of Tax Incentives for Investment in Research and Development--Taxes levied by the United States Government can affect the level and type of private sector investments in capital and equipment and in research and development and can also provide incentives or disincentives to certain types of activities, e.g. exports. The question of the appropriate level and type of U.S. taxes is a complex issue. The actual effects of a number of taxes have not been identified with comfortable degrees of certainty. A number of efforts are underway within the U.S. Government and in the private sector to provide better information on more effective use of tax policies. The following paragraphs provide some general background on recent developments and identify a limited number of options.

The Economic Recovery Tax Act of 1981 (ERTA), and its successor TEFRA, provide incentives for investment in capital and equipment and for private sector expenditures in research and development.

Accelerated Cost Recovery System--The Accelerated Cost Recovery System (ACRS) was adopted primarily for the purpose of (1) simplifying accounting, 120 compliance, and administration of taxes on business income; (2) counteracting the adverse effects of inflation in a tax system with historical cost accounting for depreciation; and (3) providing general incentives for capital formation in the private economy.

Under the Accelerated Cost Recovery System (ACRS), annual deductions for virtually all depreciable property placed in service since the beginning of 1981 no longer depend on the "useful life" of the property. Instead, the cost of the property is written-off according to a fixed schedule.

Generally, machinery and equipment may be written-off in 5 years using recovery rates that approximate the 150 percent declining balance method. A 3-year write-off is provided for autos and light trucks, for equipment used in research and development activities, and for certain short-lived property such as special tools and dies.

For 3-year and 5-year assets placed in service since 1981, the percentages of the cost written-off in each year are given in Table 30.

TABLE 30

PERCENTAGES ASSET COST WRITTEN-OFF

	3-Year Assets	5-Year Assets
Year 1	25%	15%
Year 2	38	22
Year 3	37	21
Year 4	N/A	21
Year 5	N/A	21

Depreciable real property may be written off over a 15-year period using the method of 175 percent declining balance.

Investment Tax Credit--Machinery and equipment investment is also eligible for an investment tax credit. For 3-year property, the credit is 6 percent; and for all other eligible property, it is 10 percent. When the full investment credit is taken, the basis of the property eligible for depreciation is reduced by one-half the investment credit percentage. For example, for 5-year equipment, 95 percent of the cost may be depreciated. As an alternative to reducing the depreciable basis, the investment credit can be reduced by 2 percentage points.

Research and Development Tax Credit--To encourage research and development, a tax credit equal to 25 percent of incremental research and development expenses (wages, supplies, and leases or other charges for computers and lab equipment) is permitted through 1985. The increment is to be calculated as the increase over the past 3-year average.

Effective Corporate Tax Rate--The result of the above changes was a substantial reduction in the overall effective corporate tax rate applied to new investment for all industries. The following effective tax rate was estimated by the Department of Treasury using observed investment patterns and assumes a 4 percent real after tax rate of return and 6 percent inflation.

The effective tax rate on new depreciable assets for all industries prior to ERTA was 42.2 percent. After 1982, the effective tax rate was 28.4 percent.

According to the most recent official estimates, the corporation income tax will produce $35.2 billion of revenue for FY-1983, or about 6 percent of total budget receipts. The National Income Accounts show corporate tax liabilities for calendar year 1982 to be about 26 percent of aggregate corporate profits. These tax collection amounts and average rates vary considerably over the business cycle. Generally, tax relief provisions such as rapid allowances for capital recovery and tax credits, have moderated the 46 percent rate that applies to most taxable corporate income, but a substantial corporate rate burden remains and no substantial provisions are available for "integrating" the corporate and individual taxes, as in many other countries.

Another law which could have a positive effect on the development of the ball and roller bearings industry is the Small Business Innovation Development Act of 1982 (P.L. 97-219). This piece of legislation, which took effect in July 1982, requires Federal agencies that support over $100 million in research and development to set aside a minimum of the following percentages of their research and development funds for programs to stimulate innovation by small businesses: 0.2 percent in 1983, 0.6 percent in 1984, 1.0 percent in 1985, and 1.25 percent in 1986 and thereafter.

OPTIONS:

- Leave the tax benefits/burden essentially unchanged.

- Seek additional tax incentives to promote research and development. These might include liberalizing the research and development tax credit, supporting a broader definition of research and development, making the 25 percent credit permanent and applying it to other organizations (start-ups and joint ventures). The present provision for the 25 percent research and development tax credit is due to expire in 1985.

- Consider revision of the tax structure as it applies to exports. The United States taxes profits on exports, while many other countries shield exports from taxes. Countries that rely heavily on value added taxes (VAT) generally refund such taxes to exporters. The United States could consider substitution of the VAT for the income tax or a tax credit for exports to offset the VAT credit on exports received by U.S. firms' foreign competitors.

These measures could be considered in addition to the Foreign Sales Corporation Act which was signed by the President on July 18, 1984 and is effective for tax years beginning after December 31, 1984. The FSC is a corporation set up in a foreign country or U.S. possession, other than Puerto Rico, that can obtain corporate tax exemption on a portion of the earnings generated by sale or lease of export property (50 percent U.S. content and other limitations) and services related to and subsidiary to the export of such property. FSC's can be formed by manufacturers, non-manufacturers and export groups, such as Export Trading Companies.

- Liberalize tax incentives for investment in capital equipment. This could provide an important boost for industries like ball and roller bearings that face foreign competitors with significantly lower costs in some product lines and that must invest in productivity increasing production processes to meet the competition.

Anti-Trust Issues--The U.S. bearings industry has overcapacity. Mergers and acquisitions may offer a means for achieving economies of scale in production and operation and improving access to capital. The use by the Justice Department of market shares based solely on domestic output might sometimes have the effect of preventing mergers and acquisitions, even when combinations might enhance the firms' worldwide competitive abilities. The Justice Department, however, does consider the market shares of imported products whenever it seems appropriate and realistic to do so.

The first step taken by the Justice Department in evaluating a prospective merger or acquisition is to define the geographic and product markets involved. With the markets defined, the Justice Department then analyzes the proposed merger against its published Merger Guidelines, which set standards for horizontal mergers. Under the 1982 Merger Guidelines as revised in 1984, the Justice Department calculates market concentration through use of the Herfindahl-Hirschman Index, which is a sum of the squares of individual firm market shares. Under the Guidelines, a Herfindahl Index total of over 1,800 is considered highly concentrated. The 1800 figure corresponds to a four firm market concentration of 70 percent of market. In highly concentrated markets mergers that increase the Index by more than five points may be challenged.

Examples of such mergers would include those between firms with market shares of:

Firm A	Firm B
12%	2%
8%	3%
6%	4%
6%	5%

If market shares for anti-trust purposes were constructed, including available imports, some mergers and acquisitions would look less damaging to competition than if market shares were constructed looking at domestic output alone. If global market shares were also examined an even broader view of competition would be identified.

OPTIONS:

- Continue current U.S. anti-trust policies which now considers the competitive role of imports.
- Seek new approaches to anti-trust law and implementation that will evaluate and respond to the overall effect on the international competitiveness of U. S. industries.

Senator D'Amato. I would like at this time to call upon Mr. Latona. First of all, thank you, Mr. Sperrazza for your testimony and your insight, and ask Mr. Latona if he will share his insights with us today and thank him for being here.

STATEMENT OF JOHN LATONA, VICE PRESIDENT, LAW, HOUDAILLE INDUSTRIES, INC.

Mr. Latona. Thank you, Senator, I appreciate the opportunity to be here. I have had many exciting moments in Albany and this is another one in my life. And I thank you for allowing us to tell the story of the experiences of the machine tool industry with regard to foreign competition, Japanese trade practices.

This is not new to you. You are the first Member of the Senate to cosponsor the Senate resolution in 1982 supporting the Houdaille petition with regard to Japanese trade practices. I just hope that you can convince some of your colleagues that action needs to be taken now, and also that the media will get the word out to the public. We have been telling the story for 3 years now and it's similar to every story you have heard today.

Senator D'Amato. Let me say this. One of the great informational resources that we have with us today is C-Span. I salute them, the American people are deeply indebted to them, because they, unlike much of our other media who are interested in just the sensational, go into in-depth coverage of important committee hearings, matters that really affect the life of our country, the lifeblood of our country, and create an awareness with the public that would never be were it not for their coverage—millions of Americans who tune in and listen. And whether it's in the area of the bearings Mr. Sperrazza testified about; in the area of your activity—they can begin to share their own experiences, whether they were producers or at some time had worked in one of these industries that have been savaged, or whether they saw the effects of the plants closed down and the loss of jobs. Consequently, as you mentioned, the media is doing its part—because I believe that it will take an aroused public to move the administration and the Congress to redress a system that exists today that is inadequate in dealing with the problems that we have. That, as the good Commissioner might like to make findings that would help and be beneficial to a segment that petitions the Commission, he's without the legal authority or recourse to do so. It's about time that we gave the Commissioner, the Commission, and the courts the ability to deal with what is taking place—which is the savaging of the American industrial base.

Mr. Latona. Absolutely. I think if the people understood what was occurring that the story would be far more sensational than a lot of what we do see and read.

My statement outlines the Houdaille position——

Senator D'Amato. Let me first say that your entire prepared statement will be put into the record, received in the record.

Mr. Latona. Let me elaborate a little bit. Also, our original petition, which was filed in early 1982, goes into great detail about the many things that Mr. Sperrazza was testifying about. We have actually reproduced and translated official Japanese Government documents under which the machine tool cartel was established.

We have shown documentary evidence of the loan subsidies, the grants, we have video tapes of whole campuses of industrial research facilities throughout Japan, sponsored by the Japanese Government; and this material has all been made available over the last 3 years to various parts of the Government, including the U.S. International Trade Commission which has published reports on these circumstances.

What concerns us is what's happened to the machine tool industry is, in many ways, now history.

Mr. SPERRAZZA. Would you kind of summarize? Give for the Commission and for the people who will hopefully be given the opportunity to watch this proceeding—what we are talking about, what you are talking about, why you put in the petition, and what the status is?

Mr. LATONA. The machine tool industry was an industry targeted by the Japanese Government. That means they——

Senator D'AMATO. Would you describe the machine tool industry?

Mr. LATONA. Oh. OK.

Senator D'AMATO. Recognize there are many people, just—talking about hearings—who have no importance of the idea or significance and would you talk about the machine tool industry. I think that becomes important to describe it.

Mr. LATONA. Machine tools are absolutely essential to any kind of industry economy. Everything in this room, everything in this room was either made on a machine tool or on a machine made by a machine tool. It is absolutely critical to any kind of defense activity. General Eisenhower's memoirs, in discussing World War II, state that the absolutely critical event in World War II was the rapid development of the machine tool industry in the United States and the productive capacity that it gave the U.S. defense industry.

It is absolutely essential to any kind of economic activity, and if it is not done here, we have to wait for somebody else to develop the latest—for the last 30 years, the heart of the machine tool technology development has been the United States. If that shifts, as it is shifting, to Japan, we will be waiting for the Japanese to develop new technology for us and we will get it second, at best.

Machine tools cut, shape, form, bend, punch metal so that, as I say, every machine is made on a machine tool, and so on, and so forth.

Wood is cut on woodworking machine tools. Cabinets for computers are shaped on machine tools. Everything literally, is in one way or another the product of a machine tool.

They have gone a great deal—I think most of us can remember having seen drills in shop, in school, or maybe someone has those kinds of equipment in their little shop in the basement. What we are talking about is the same general principles, pieces of metal cutting or drilling, shaping metal just on a much larger scale and more sophisticated scale. Virtually all machine tools made in this country, or elsewhere, are controlled by computers. They don't have to be reset each time you make a different cut. Very, very sophisticated high-technology pieces of equipment. Although in Washington, because the machine tool industry has been around a long time, machine tools are thought to be smoke stack and old technology, and stuff that we really don't need any more. That is entirely incorrect. It's absolutely essential to our economic well-being and to our national security.

The way the Japanese go about this, the way they did it with the machine tool industry, is first a critical industry is identified. It is identified. Then restrictions are placed on the import of those goods into Japan. This is to enable the Japanese manufacturers to develop a large volume production of whatever that product is, in order to be economically successful.

Senator D'AMATO. So did there come a time when America had a substantial part of the machine tool industry in Japan, or American machine tools in Japan?

Mr. LATONA. Very brief, but yes.

Senator D'AMATO. Then there came a time when there were restrictions placed on the Japanese—or the Japanese placed restrictions on American machine tools coming in?

Mr. LATONA. Absolutely.

Senator D'AMATO. How did they do that?

Mr. LATONA. Very simple. They tell people you can't ship machine tools into the country.

Senator D'AMATO. When did that take effect, approximately?

Mr. LATONA. Back in the 1960's.

Senator D'AMATO. In the 1960's. And your company——

Mr. LATONA. At that time we were then forced to go to license agreements if we wanted to do any business at all. In other words, we had to license Japanese companies to manufacture our product over there because we were not allowed to sell in Japan.

Senator D'AMATO. You had to license Japanese companies and you figured that's better to do than to have no access?

Mr. LATONA. Exactly.

Senator D'AMATO. In essence you put them in business?

Mr. LATONA. Yes, sir.

Senator D'AMATO. Interesting.

Mr. LATONA. The next step is the provision of all kinds of financial subsidies. First of all, just the way the country is set up and the financial system of Japan, which provides low interest rates, just even at the market level, is an advantage. But, then, below Japanese market level loans are made available. In the cases of developing new products it's actually possible to get just outright grants. It is possible to get loans that don't have to be paid back at all unless the product is successful.

There's just a whole panoply of subsidies; the most curious one: the bicycle race moneys. Just as we have public stake in the parimutuel funds generated in the racetrack business and jai alai business, Japanese bicycle racing is an exciting event for the public and they bet a great deal of money. And about $1 billion a year is diverted from the parimutuel betting on bicycle races into subsidies for the machinery industry, a portion of that which has gone, in the past and still, to a degree, going to the machine tool industry in Japan as a form of subsidies for new product development.

The next step is the creation of a cartel, and this, again, is done by the Government. If you are not producing in sufficient volume they tell you to get out of the business in order to make that volume available to the larger producers. They will help you get into another business; they don't just put you adrift, but, in any event you are now part of the cartel which sets marketing policies, sets prices, sets all manner of policies for the industry, and protected by the Government.

We actually have interviews with the staff of the equivalent of the FTC in Japan, showed them the documents that we had on the machine tool cartel, asked them if that was contrary to Japanese law and were told, yes, that is contrary to Japanese law; asked if they were going to do anything about it. They said: No; they didn't have the staff. They only had four people working on these kinds of matters. And needless to say they were not about to get into it.

Beyond that, just talking about antitrust laws, this notion that if we did any of this stuff, of course, we'd all be in jail, it goes even beyond that. I unfortunately didn't bring it with me but I can provide it to you. I have provided it to other congressional hearings, and nothing seems to be done about it. There's actually a speech on record that is now, after 1980—maybe 1982, it could have been 1981, by the then head of the international section of the Antitrust Division of the Justice Department, threatening American businesses if they even thought about bringing petitions for relief under the trade laws, the existing trade laws of the United States.

So, while the Japanese Government is creating cartels, the United States Government is threatening businesses and telling them that they better not even seek relief under the laws that are presently on the books.

Senator D'AMATO. Now let ask you this, Mr. Latona, you say that speech was made by—who?

Mr. LATONA. The gentleman was then the head of the international section of the Antitrust Division of the Justice Department, and it went out over that letterhead.

Senator D'AMATO. Our Justice Department?

Mr. LATONA. Yes, sir; yes, sir. And that actually was, in part, held up——

Senator D'AMATO. Would you supply the committee with a copy of that?

Mr. LATONA. Certainly, certainly. It actually held up a number of trade organizations in their attempts.

Senator D'AMATO. Who were threatening litigation?

Mr. LATONA. You bet. It's not something that one dismisses lightly.

I have been since told that that particular individual is no longer with the Justice Department, but I haven't heard anybody come out with a statement saying that's no longer our policy, or don't worry about it fellows, or anything else. It's just an entirely, totally different environment that we function in as opposed to the competition.

What's even more serious than just what the Japanese are doing is that, of course, now other folks are learning the lesson. The Taiwanese, the Koreans, Singapore, going along the same lines, Brazil—other countries have not yet been as successful, they are not as adept as the Japanese at implementing these policies, they do not have the tightly integrated society that the Japanese have and therefore are not as productive——

Senator D'AMATO. Efficient?

Mr. LATONA. As efficient as the Japanese have been.

Senator D'AMATO. Give them some time they'll be just as proficient.

Mr. LATONA. All they have to do is keep working at it. They certainly have the motivation and they are not deterred. One of the points you made, Senator, and another point in this that we are not just talking about wage levels or what have you. There's a whole range of social policies which are in place in the United States with regard to environmental considerations, all sorts of social policy considerations. We spend millions of dollars filing reports on all manner of activities which the rest of the world just does not do, and is not burdened with, and is not diverting their productive resources into providing.

We spend lots of money on lawyers and accountants, just to keep track of all this stuff, and nobody else in the world bothers with it. They don't have all kinds of fair employment laws. They don't have antipollution laws. They don't have OSHA. However worthwhile every one of those things may be within the context of American society, there is also a cost of doing business in this society which is not borne anywhere else in the world.

So, it's just the United States——

Senator D'AMATO. Let me ask you this, Mr. Latona, would you summarize and say what is the status of the American machine tool industry today, as you know it, in comparison to, let's say what it may have been 5 years ago, or 10 years ago? And where do you see us heading?

Mr. LATONA. In 1976, the Japanese had roughly 4 percent of the United States machine tool market. Other countries 1 percent, 2 percent, 3 percent, in there. The other countries' penetration have not changed a great deal. They are all creeping up slowly. The Japanese have gone close to 50 percent of the United States machine tool market. In some absolutely critical segments of the machine tool industry, machining centers, which are the highest, most sophisticated form of machine tool, computer controlled machine centers, they are up over 70 percent.

In lathes, again an absolutely basic type of machine tool, they are up over 80 percent of the U.S. market.

Punching and forming machines, they are still around 50 percent of the U.S. market.

Senator D'AMATO. What should be done in that area?

Mr. LATONA. More and more U.S. companies—ours included—are having to go offshore. We are ceasing to be manufacturers of machine tools and are becoming importers of machine tools.

Senator D'AMATO. Let me ask you one final question: What could we do to ameliorate that problem?

Mr. LATONA. Well, there's a number of things. First of all, your point again, and it's a marvelous analogy: We have to convince the Japanese, number one. And if we convince them I think we'll convince the rest of the world that we are serious.

There are a number of reports—a recent article in American Metalworking News by Rosanne Brooks that the Japanese have again offered a restraint agreement on machine tools. The administration has refused to consider such a thing.

So, as you point out, as long as we do not show that we are serious, there's no reason in the world why the Japanese or anybody else ought to take us seriously.

We have to do something that says: OK, this is it, this is the time. You better take the dog out tonight, and if the dog doesn't go out tonight, by golly, something is going to happen. When the dog doesn't go out, that something had better happen.

That's No. 1. No. 2, we are presently considering some tax policies which will be extremely detrimental to the American industrial base.

Senator D'AMATO. You mean rescission of investment tax credits?

Mr. LATONA. That's part of it, but that's only part of it. If you look at what's being done to the changes in the depreciation schedules, another devastating blow to American manufacturing.

Senator D'AMATO. Will it cost us jobs?

Mr. LATONA. Absolutely.

Senator D'AMATO. Say it again.

Mr. LATONA. It will cost us jobs. It will cost us jobs. And those jobs are absolutely essential economically and defense-essential manufacturing industrial jobs.

Senator D'AMATO. Where will those jobs be lost?

Mr. LATONA. New York State. New York State, among other places.

Senator D'AMATO. No. No.

Mr. LATONA. In America.

Senator D'AMATO. What about Indiana?

Mr. LATONA. Yes, Illinois and California.

Senator D'AMATO. What about California?

Mr. LATONA. We are about to close them.

Senator D'AMATO. It's not just in New York.

Mr. LATONA. No, it's not just in New York. We are told, well, we are shifting to a service economy.

Senator D'AMATO. We'll be eating Japanese hamburgers soon.

Mr. LATONA. Do you think we can export our legal profession to Japan? Some people might like to do that, but the fact of the matter is the Japanese specifically, to this day, will prevent a United States lawyer from going and entering Japan, if his stated purpose is to do legal work on behalf of a United States client.

We had a case in front of the U.S. International Trade Commission; and depositions, discovery was set up and was to take place in Japan and our lawyer had a visa; and as he was about to board the plane in Los Angeles he was denied, the visa was revoked because all of a sudden it was realized he's going to go over there and ask questions of Japanese in some litigation, and that is not permitted. At the time we thought that that was something that had been done personally to us, that the Japanese Government was intervening specifically in our case. And there have been some dramatic reports of this incident in both some books and a "60 Minutes" program.

We were told oh, no, no, no. You are entirely wrong about that. That isn't anything personal to Houdaille. That was not the Japanese intervening in that case. We will not let any lawyer into Japan to do legal work.

So, you know, you shouldn't be upset about it.

[The prepared statement of Mr. Latona follows:]

PREPARED STATEMENT OF JOHN LATONA

Mr. Chairman, in May 1982, Houdaille Industries, Inc., a diversified manufacturer of industrial products including machine tools, filed a petition with the office of the U.S. Trade Representative asking that the President deny the Investment Tax Credit to purchasers of certain Japanese machine tools. The petition was submitted pursuant to Section 103 of the Revenue Act of 1971.

In April of 1983, President Reagan denied our request for relief under Section 103. Administration officials had told us many months earlier that no action would be taken under Section 103 but that if corrective action were to be taken, it would be on the authority of Section 301 of the Trade Act of 1974, as amended. Section 301 requires essentially the same showing of unfair trade practices as 103, but provides a much wider range of remedies, including tariffs and quotas. Thus, the President's denial of our petition under Section 103 leaves a possibility for action under Section 301 in the future.

After the denial the U.S. Trade Representative staff and other trade officials began discussions with Japanese officials to learn more about Japanese industrial policies, also known as targeting policies. The Japanese promised to "speak truthfully" about these matters, but, based on our experience in this case, we were skeptical about just how candid the Japanese Government officials would be. We learned the hard way that precisely the right question has to be asked of precisely the right Japanese official to obtain correct pertinent information. The talks went on for months and produced no results of substance. On other occasions, however, Japanese officials have offered to negotiate a voluntary restraint agreement for machine tools, but our government has not taken up those offers.

Let me now put our efforts into chronological order, concluding with a description of how, in spite of the case we made, in the end the President turned us down.

Anyone wishing the full details of our description of unfair Japanese trade and industry targeting practices in the machine tool industry should read the comprehensively documented petition we submitted to the President through the U.S. Trade Representative on May 3, 1982, and later submissions we made to the Trade Representative's office. In addition to the legal analysis of our position, they contain hundreds of pages of official Japanese government documents, both in Japanese and in English translation, describing the official creation of a Japanese machine tool cartel and the wide variety of financial assistance given the cartel by the Japanese government. No one has challenged the veracity of those documents.

In addition, Mr. Copaken of our law firm, Covington & Burling, made an extraordinarily revealing set of video tapes of his meetings with Japanese officials at technical research facilities funded and, in one case, operated by Japan's Ministry of International Trade and Industry. These tapes prove that our petition is not based on some legal abstraction. They depict in concrete terms what Japanese industry targeting means today.

My statement this morning will merely highlight our findings and describe some of our experiences as we have struggled to bring an element of equity to the battle between individual U.S. machine tool producers and the government-backed machine tool cartel of Japan.

In the segments of the machine tool industry we are most interested in, computer controlled machining centers and punching machines, we have found that Japanese achievements have resulted in large measure from very well organized, very well implemented plans initiated by their government to target penetration by its industry of world markets -- especially the United States market because it is the world's largest.

We are a major manufacturer of technologically advanced computer controlled (CNC) machining centers and punching machines. We have watched Japanese penetration in those two product lines soar miraculously from around the 4% range as recently as 1976 to approximately 75% and 50%, respectively, in the most recent period. We set out to determine how this was accomplished, for, if the trend continued unabated, the United States machine tool industry would fall mortally wounded before any action under the traditionally available trade laws could be taken.

Phillip A. O'Reilly, President and Chief Executive Officer of Houdaille Industries, Inc., long believed that the Investment Credit should be limited to U.S. value added. In discussing the possibility of legislation to accomplish this, Section 103 of the Revenue Act of 1971 was brought to our attention by Jim Mack of the National Machine Tool Builders' Association. Section 103 gives the

President discretion to deny the Investment Credit to foreign goods where the foreign country has engaged in policies unfairly burdening U.S. commerce.

But why turn to Section 103, unused and unheralded, when other remedies ostensibly were available? Section 103 provides an effective remedy with maximum administrative flexibility. Proceedings under Section 201 of the Trade Act of 1974 invariably take a very long time and many of those who proved their case under 201 still failed to obtain relief. Section 301 of the Trade Act of 1974 had been invoked a comparatively few times and, although some informal government-to-government settlements were achieved, no one had been granted relief under it. There is no need to go on. Anyone familiar with the field knows that in the past the deck has been stacked against U.S. businesses seeking equitable relief from unfair foreign governmental policies and practices. The road was long and arduous, the cost prohibitive and the outcome certain only in the sense that defeat is the greatest likelihood. Recently, there has been a slight improvement in the odds, but at that time chances were slim.

We, therefore, decided that invoking an unused statute might enable us to move more quickly, and achieve favorable results. We also felt that the unique nature of the remedy, and the breadth of the President's discretionary authority that, incidentally, had never been delegated to any agency and therefore was devoid of any red tape, made swift use of this statute possible and, we hoped, more likely.

Our case was firmly based on facts rather than conjecture or strong feel[illegible] Our Attorney and Mr. O'Reilly actually went to Japan and intervi[illegible]apanese officials. The Japanese are forthcoming only if asked precisely the right question and only if precisely the right Japanese is asked. O'Reilly and Copaken scored some direct hits. Also essential to our findings were the efforts of a leading Japanese law firm we retained to analyze and translate Japanese laws and government orders for Mr. Copaken. The results of all these efforts are now on file with the Trade Representative's office: Chapter and verse on the creation and maintenance of the machine tool cartel by MITI and the subsidization of that cartel by a bewildering variety of loans, grants, tax concessions and the now-famous bicycle and motorcycle race betting funds.

The Japanese machine-tool cartel was formed in response to the first of a series of three special laws for the promotion of the machinery industry. In enacting these laws the government of Japan launched an ambitious crusade to seize the higher value-added and most technologically advanced market segment of this fundamental industry. Although these laws were officially characterized as temporary measures, they have remained in effect since 1956 -- one "temporary" measure following on the heels of another.

The Japanese Ministry of International Trade and Industry ("MITI") used the free hand given to it by these laws to weed out manufacturers with small market shares. Each firm whose production constituted less than 5 percent of the Japanese market in a specific machine tool and less than 20 percent of the company's total enterprise was directed to stop manufacturing those tools. The market shares thereby relinquished were turned over to a limited number of larger, more successful producers. Under MITI's guidance these companies then exploited the consequent economies of scale and specialization to penetrate export markets, secure in the knowledge that these advantages would be protected against competitive erosion in the Japanese market.

In taking these actions the government of Japan catapulted its cartel into the high-technology end of the market. MITI successfully pressed the Japanese machine tool manufacturers to act jointly to concentrate their efforts in developing and producing NC machine tools. Each company in the cartel was directed by MITI to increase to 50 percent the NC share of its total production of machine tools. In addition, the cartel was directed to expand its collaborative efforts to include suppliers, customers, service, and other activities.

With the long-range goal of selectively penetrating and dominating important export markets as its guiding principle, the government of Japan devised imaginative strategies for financing this cartel with tax advantages, concessionary loans, research grants, and other direct and indirect subsidies.

In the most unusual example, nearly a billion dollars a year worth of yen generated by wagering on bicycle and motorcycle races in Japan were and continue to be made available by MITI for promoting the Japanese machinery industry, including the machine tool cartel, and the export of these products.

MITI officials confirmed the government's use of this mechanism to support Japan's machinery industry including, specifically, the machine tool segment, but downplayed its importance by quantifying the bicycle racing proceeds subsidy at less than one-half million dollars a year. In preparing our Petition we relied on those assurances, although MITI would not provide documentation in spite of our repeatedly submitted written questions.

Their assurances turned out to be false. We now have official Japanese government and private documents which reveal that in the 1979 Japanese fiscal year, some 919 million dollars were made available from wagers on bicycle and motorcycle races alone to promote the Japanese machinery industry and in Japanese fiscal year 1980, 823 million dollars. This assumes a conversion rate of 201.3975 yen to the dollar in 1979 and 229.66 yen to the dollar in 1980. In yen, the 1980 figure was actually 4 billion yen higher than in 1979. Those who manufacture other machinery products would do well to investigate how their Japanese competitors are benefitting from this annual largess.

The results of this targeting of the U.S. machine tool marketplace were dramatic. The Japanese now make over 50% of the sales in the high technology sectors of the business. Because of the government assistance they receive, members of the cartel offer U.S. buyers good products at competitive prices with quick delivery and quick service. We have demonstrated that these positive attributes are the result of massive government assistance, not superior engineering or management. Nevertheless, there are those in our country who do not look behind the Japanese products to see the role of government subsidy.

The facts are these: Japanese machine tools are not technologically superior to those made in the U.S. In fact, virtually all Japanese machine tools are directly copied from U.S. designs obtained through licensing agreements or reverse engineering. At the direction of their government, Japanese manufacturers set out to obtain the best designs in the world. They found them in the U.S.

We do not view our petition as having been protectionist in any sense. We believe in free trade. We are confident that in a fair fight we can compete with any private manufacturing concern. Competing with a government the size of Japan's is another matter. As long as it provides the extraordinary range of subsidies and direction as we have revealed, we see no free trade theory which justifies the U.S. allowing its manufacturers to lose business and its workers to lose jobs. The Houdaille Petition gave the President a rare opportunity to take an affirmative action for free trade by forcing the Japanese to moderate their practices to a more acceptable level of free and fair competition.

The detailed documentation of Japan's industrial policy that we have provided transformed our case from one of parochial concern into a major opportunity for enhancing the leverage of the United States to open Japanese markets and assure that United States industry and jobs are not lost to unfair cartel competition.

Despite years of talk the government of Japan continues to resist opening its markets in any significant way to free competition. Until the United States shifts from talk to action, it will always be so. We consider it to be tragic that such an opportunity for making free trade work has been missed.

The Houdaille Petition was the subject of much extremely heated discussion at all levels of the trade bureaucracy. Agencies involved included the U.S. Trade Representative, the departments of Commerce, Treasury and State, plus the National Security Council, the Office of Management and Budget and the Council of Economic Advisors. The departments of Defense, Labor, Transportation and Agriculture also had some input.

The issues were: are Houdaille's facts correct and, if so, what action, if any, should be taken? As the dispute wore on, Houdaille provided voluminous additional amounts of evidence. Further requests for data were made of us which were clearly unreasonable such as: what are the actual costs of making machine tools in Japan and in the United States? In addition to the massive amount of work such research would entail, it also posed obvious legal problems. We could not ask our competitors for their costs without violating the antitrust laws, yet some government officials wanted us to provide that information. After a while it became clear that these requests for additional information were adversarial in nature, designed to harass us, and not for the purpose of gaining more information.

Eventually the conflicting parties within the Administration came to a grudging unanimous agreement: the facts as alleged by Houdaille were correct and they were legally sufficient to warrant taking action under Section 301. Even with this agreement on the facts, and the law, there were those in the Administration who did not want to act. Some were opposed on ideological grounds. They felt that no action by a trading partner, no matter how unfair, could justify erection of any retaliatory trade barrier by the U.S. Others did not want to offend the Japanese, who are extremely sensitive to charges of unfairness leveled at their trade and industrial policies. Some in the Administration supported us strongly, notably then Ambassador Brock and Commerce Secretary Baldridge.

In late April, it was decided finally to put the decision to the President. Given the agreement on the facts and their legal implications, officials who favored taking a stand with Japan that would enable the United States to negotiate from a position of strength were optimistic. However, an extraordinary, last-minute intervention by the Japanese government, including a personal note from Prime Minister Nakasone to President Reagan, turned the tide. Sensitive to Japanese feelings and concerned about Nakasone's chances in upcoming political tests in Japan, the President denied Houdaille's request for relief under Section 103, refrained from taking action under Section 301, and accepted in exchange only assurances from the Japanese that they would "speak truthfully" about their trade practices and industrial targeting policies.

America must wake up. We cannot have our critical industries picked off one by one in the name of free trade. American businesses and American workers cannot be burdened with a double standard which allows other nations to practice all of the elements of targeting while we remain "free". Free trade in free markets is the best economic system, but it is not now taking place. Our competitors are allowed the best of both worlds, support and protection from their government and our free markets. Unless we insist on world-wide free trade and enforce it with sanctions on those seeking to take advantage of our economy, a bleak future is before all of us. The United States must see to it that all trade takes place under the same set of rules.

Senator D'AMATO. Commissioner, did you want to say something before I brought that up? I'd be interested in your comment.

Mr. ECKES. I was just thinking of some general points, Senator. This morning you have heard a number of witnesses and you have been doing, really, what I get paid for doing almost every day—listening to domestic industries who are complaining about trade. And I can assure you from my perspective what I've heard from these industries today, these are not isolated instances. They are general and widespread.

I think what's particularly interesting is that they are not confined to the traditional labor intense products like shoes and clothing and leather goods, but now we are talking about products that are vital to the traditional defense industrial base. I think far too few people have realized the implications of this. We are talking about ball bearings and machine tools, which are key items. We are talking about steel and automobiles, which were the basis of our industrial base in World War II. It is happening to semiconductors, which are the brains of our modern defense industrial base.

I would encourage you and your colleagues to look closely at what's happening to the defense industrial base if you have the occasion for further hearings.

Senator D'AMATO. Commissioner, let me first state to you particularly, because I know you have come from Washington to be with us today, and you've taken this trip at your own personal jeopardy—I know you haven't been feeling up to par, and I am deeply appreciative of your testimony and presentation, going above and beyond—in your presense here and what you have added to this that I believe is absolutely essential, and that we not only continue it—as a matter of fact we are going to catch a plane and go right over to another area of our State where we face, I think, a critical problem because—you think of IBM as being impaired and what a loss nationally that would be to this Nation—and I would suggest, and it's only a sense that I have, that you take the great Kodak Co. with all of the billions it spends on research and development, and notwithstanding those efforts, if you have the Japanese Treasury and Government and the Ministry of Trade engaged in the policy of targeting that industry, and that which remains that Kodak has been able to keep, they are going to be hard pressed to be able to maintain as credible a share of the market as they have. That's not going to insure to the benefit of its workers, employees, or to this Nation.

I believe that not only do we need hearings, but we have to begin to crystalize and focus in on the actions that must be taken, notwithstanding if there is a mind set within the administration to be restraintful in this area, because of international relationships, et cetera. Just like the parent with his son or daughter, although there may be great love, and no one wants to strain family relationships, there is that time that discipline must be called for, and sometimes it's rather painful for both parties, but rather necessary to bring it about.

In this case I think it's long overdue. It's not out of anger or frustration but out of necessity, because I believe the Congress must begin to implement legislative initiatives to deal with the ally who has been less than generous in their treatment of our domestic and foreign business affairs.

I want to thank all of those who participated. I know we can go on for hours and hours, areas that could be explored. That will have to wait for another day, maybe in Washington when we can get the full committee to pursue some of the areas that we have undertaken, we'll be able to have the benefit of your testimony once again.

This subcommittee stands in recess with the appreciation to all the staff, and our appreciation for the witnesses' testimony here today.

[Whereupon, at 11:45 a.m., the subcommittee recessed, to reconvene at 1:30 p.m., the same day, in the Federal Building, Binghamton, NY.]

AFTERNOON SESSION

The subcommittee met, pursuant to recess, at 1:30 p.m., in the Federal Building, Binghamton, NY, Hon. Alfonse M. D'Amato (member of the subcommittee) presiding.

Present: Senator D'Amato.

OPENING STATEMENT OF SENATOR D'AMATO, PRESIDING

Senator D'AMATO. The Joint Economic Committee will undertake the second part of its hearing on United States-Japanese trade relations here in Binghamton.

I am pleased to welcome Carl Young, county executive of Broome County, NY, as our first witness.

This afternoon we will focus on Japanese barriers to United States exports. Can they be overcome?

"Free trade" and "fair trade." These words are used frequently these days, but instead of describing the amiable trade relationship that should exist between the nations, these words symbolize what is missing from international trade. Many of our trading partners have forgotten the meaning of these concepts which no longer are the building blocks of their trade policy. It seems to me, the United States stands alone in giving significant meaning to "free and fair trade." We only have to examine our trade deficit in 1984 of more than $123 billion to realize that some of our trading partners are taking unfair advantage of the free trade policies that the United States has practiced for so long.

One nation that has abused the 200-year-old concepts of free and fair trade is Japan. In 1984, Japan was responsible for almost one-third of the United States trade deficit, an incredible $37 billion.

One of America's most renowned writers and historians, Theodore H. White, authored an article on United States-Japanese trade relations that appeared in the New York Times Magazine just a few weeks ago. He wrote:

> Today, 40 years after World War II, the Japanese are on the move again in one of history's most brilliant commercial offensives, as they go about dismantling American industry. Whether they are still only smart, or have finally learned to be wiser than we, will be tested in the next 10 years. Only then will we know who finally won the war 50 years earlier.

Few nations derive greater benefit from worldwide trade relations than Japan. But up to now, the rest of the world—beginning with the United States—has not been awarded with equal opportunities in the highly protected Japanese marketplace. The Japanese enjoy easy access to our marketplace while denying United States businesses the slightest opportunity to enter their market.

Although Japan's market is technically not closed to foreign products, the Japanese have erected trade barriers to make it almost impossible to gain even a foothold in the Japanese marketplace. Examples of these barriers include:

One, formal (tariffs, quotas, investment restrictions).

Two, regulatory (product standards, customs procedures).

Three, strategic (nurture and protection of targeted industries).

Fourth, business and cultural—buy-Japanese attitude, complicated distribution system.

The result? Huge export surpluses for Japan—at the expense of every other nation. In 1984, for example, Japan ran a staggering $125 billion surplus with the rest of the world in manufactured goods alone, while the United States absorbed a deficit of more than $80 billion in those items over the same period.

We cannot allow this situation to continue. I believe that the United States No. 1 priority must be the development of a new economic partnership with Japan, a partnership that is based on reciprocity. If the Japanese refuse or fail to grasp our hand in this initiative, then this is one Senator who will be prepared to undertake a course of action designed to redress the intolerable, bilateral trade imbalance between the United States and Japan.

With one-third of last years' United States trade deficit attributable to Japan, there is no way for us to ignore the Japanese challenge. Even as I speak, our top trade officials are meeting with the Japanese in Hawaii in what will probably end up being yet another vain attempt to persuade them to open up their protected marketplace to American products. The time has come for the Japanese to realize that this outcry from the United States is not going to stop without any meaningful concessions on their part.

I believe that the United States must take decisive action to encourage Japan to honor its trade obligations by demanding reciprocal access to Japans' marketplace for all nations' goods—beginning with our own. I estimate that such an ameliorative action would bring a reduction of up to $10 billion in our bilateral trade deficit with Tokyo.

For too long the United States has treated Japan as a junior partner—which could be excused from taking full responsibility for its action. We can no longer afford this type of relationship. The time has come for Japan to accept coequal responsibility with Europe and the United States for global economic health. This can only be assured by a firm American insistence that Japan start living up to its free trade responsibilities by providing equivalent market access to United States goods or suffer the consequences of losing their much larger market share here.

Nothing less than America's economic survival depends on it.

I am pleased for the county executive to be here today.

STATEMENT OF CARL YOUNG, COUNTY EXECUTIVE, BROOME COUNTY, NY

Mr. YOUNG. Senator D'Amato, let me first welcome you and your staff to Broome County once again and let me also thank you for holding this hearing and giving me the opportunity to speak on this very important subject. The economic development of our community, as with the rest of the Nation as a whole, is tied closely to existence of a broad and open competitive marketplace in which our locally based industries have the opportunity to compete on the basis of quality and price of their products.

Let me also say at the outset, that I am not in any way an advocate of the kind of rigid protectionism which we hear being advocated in some circles. It is my belief that the consuming public, be it an individual citizen or large corporation purchasing sophisticated equipment, derive the greatest benefit when it is able to select from products whose prices and qualities are determined by genuine market forces rather than the artificial cost inflation of protective tariffs. In the long run, protectionism simply invites reciprocal actions on the part of the rest of the world marketplace. As a consequence, prices become inflated, quality often suffers, and the coincident ill will generated by these kinds of responses can serve to undermine the overall relationships among nations.

As President Reagan noted in his visit to Broome County in the fall of 1984, we have made the transition from smoke stack industry to high technology. In this regard, we are among the leaders of this country in this field, with the third highest per capita concentration of high technology employment in the country. By the same token, the current downswing in this industry has caused a noticeable increase in unemployment levels in our area, which serves to underscore the need for the marketplace to be kept as open and competitive as possible. At a time when Japanese products are competing strongly in the United States with those products made by Broome County employers, it is only fair the Japanese market be equally accessible to our companies. And that is clearly and emphaticallly not the case.

I have made economic development concerns one of the highest priorities of my administration, and have been fully supported by the county legislature in a totally nonpartisan manner. Likewise, the private sector in our community has bent every effort to assist us and work with us to redress these issues. The support that we have received from our State representatives and from the Federal Government, especially through your efforts and those of your staff have also been vital to the success we have realized to date.

The most important ingredient for us as a community is the development of a 620-acre corporate park in the town of Conklin. When fully developed, this park will result in the creation of 8,000 to 9,000 jobs within the park, and an additional 3,000 to 4,000 jobs in ancillary businesses outside the park.

We look to this park to do more, however, than simply create jobs. When fully developed, we will have significantly expanded the tax base in our community, and we are confident that the employment opportunities presented within the park will lead to a reversal of the downward trend in the Broome County population. By attracting younger working age families to the area, we will be assuring ourselves of the necessary human resources to sustain our economy and to provide the tax base of services in our community well into the 21th century. This is especially critical for us, in as much as we have a disproportionally large segment of our population that is over the age of 60. It is essential that we attract more younger people to live and work in our community.

Inasmuch as the primary thrust of the development in this industrial park will be in the area of high technology, it is essential to us that the companies which locate there be allowed to operate in a climate of free and open competition. While the concern for us may seem somewhat indirect, the nonavailability of major segments of the world marketplace does have a bearing on the successful development of this park and the long-term economic future of our community.

When fully developed, with all the necessary attendant infrastructure, this park will represent a $25 million investment. The State of New York has underscored its commitment to this project with more than $6 million of grants aimed at providing part of that infrastructure. The Federal Government, as you know, has already committed more than $1 million in two grants, and we are anticipating an additional $1.5 million in a grant from the Economic Development Administration. The private sector through the efforts of local industries and a commitment to build in the park by one local company already 2 years in advance of the park's actual completion, are indications of the strong support the community is giving to this project.

It is ironic that we find it necessary to articulate a call for a competitive environment. It is doubly ironic that, when one considers the full range of the American commitment to Japan since the end of World War II, that the call for this open competition must be directed toward that nation. In the long run, I believe that that competition will result in better products and stronger economies in both countries.

In closing, let me reiterate my belief that the thrust of legislation and negotiation should be simply to create genuinely competitive marketplaces where foreign markets are made as accessible to U.S. companies and U.S. products—especially those made in Broome County—as U.S. markets are to foreign companies. I am absolutely confident that the people and industries of Broome County will survive and flourish in such a setting.

Again, I want to thank you for coming back to Broome County and for giving me the opportunity to present my views on this very vital subject. I would be happy to respond to any questions you may have. I hope to see you again. I know I will.

Senator D'AMATO. Mr. County Executive, first of all I am appreciative of your taking of your time to be here.

I am surprised about a certain statistic that you mention. And that is the unemployment statistic that has gone from 5 percent to 7 percent. Would you care to elaborate on that and give us what period of time it is and tell us why you feel and what industries have you seen this employment take place?

Mr. YOUNG. The statistics are generated from the State department of labor and their analysis has indicated that it is exactly in the high technology industry. One company in particular—rapidly growing company here—has had layoffs up to 15 percent of their work force. They anticipate that this downcycle will bottom out and they are optimistic about things 5 years from now.

The timeframe covered by that drop is, I believe, a 10-month timeframe where we have suffered substantial reductions in the high technology area.

Sentor D'AMATO. I am surprised about that because again, Broome County has been noted for its stability in the work force, leading the State generally as one of those areas, one of those regions, statistical regions that has had one of the worst unemployment rates. I might just simply say that I see this market penetration as a very serious situation where an area is targeted and then I see now where you know of the endeavors that appeared to me. I wish that young man who posed that question in a rather argumentative frame of mind would be here.

But the fact of the matter is there would be no way that even a great corporation that has put billions of dollars into productivity will be able to compete if there is no well-financed organization that is willing to sustain losses over a period of time to guarantee that it will have a share of the marketplace, and that is the kind of thing I an concerned about. Whether it be Kodak or whether it be IBM or whether it be the small machine tool and die maker.

But let me thank you for your contributions and for your testimony here today.

Mr. YOUNG. Thank you very much.

Senator D'AMATO. Our second panel is Mr. George Mu, who is the Deputy Director of the Office of Japan, U.S. Department of Commerce, Washington. Mr. Mu, we are pleased and delighted that you are with us in this field hearing that I think is so important so that we can listen to the voice of the people. And we would love to have your testimony in any way in which you would like to make it available.

STATEMENT OF GEORGE MU, DEPUTY DIRECTOR, OFFICE OF JAPAN, INTERNATONAL ECONOMIC POLICY, U.S. DEPARTMENT OF COMMERCE

Mr. MU. Thank you very much, Mr. Chairman. I appreciate this opportunity to testify on Japanese trade barriers for United States goods and services and the progress this administration is making in opening the Japanese market.

United States-Japan trade relations are currently characterized by increasing friction as a result of the expanding bilateral trade surplus in favor of the Japanese, and the continued presence of barriers which prevent access of foreign goods, services, and investment to the Japanese economy. The United States Government has concentrated on increasing United States market access in Japan through intensive bilateral negotiations over the past few years. These efforts have resulted in several initiatives on the part of the Japanese Government to address this increasingly sensitive issue. Today, I would like to address the types of barriers that we have been addressing in our negotiations and to assess their implications for U.S. trade and industrial competitiveness.

The most obvious barriers to market access are the formal restrictions. These include tariffs, import quotas, investment screening laws, foreign exchange regulations, State monopolies, and preferential procurement requirements, among others. The incidence of such barriers is obvious, as is their effect on imports: Foreign sales are precluded, limted, or forced to bear a clear price disadvantage.

Since the 1960's, Japan has made substantial progress in reducing these formal barriers. Tariffs are generally low. Monopolies such as Nippon Telephone and Telegraph, and Japan Tobacco and Salt have been "privatized," and although it is too early in this process to detemine whether privatization will soon make a difference in terms of access for American suppliers, I believe it ultimately will. Foreign exchange and investment restrictions have been largely eliminated.

While the scope of formal trade barrier has been reduced, those which remain are sharply targeted on competitive imports.

Tariffs impede our ability to sell wood, paper, some fisheries, aluminum, chocolate, and numerous petrochemical products.

Quotas on fisheries, leather and footwear, and agricultural items limit sales—despite recent quota expansions.

Widespread single tendering on Government contracts undercuts our rights under the Government Procurement Code, and reserves a part of the market to inside suppliers.

Less obvious, indirect barriers are pervasive. Their effect is substantial, although they often result from domestic policies which developed independent of trade considerations, such as a desire to protect the Japanese people from potentially dangerous or ineffective drugs.

Perhaps the most significant indirect trade barriers are Japanese Government industrial policies. These policies are based on the notion that the Government has a broad responsibility to oversee the development of infant industries; to underwrite the restructuring of industries caught in cyclical recession or structural decline; or even to provide long-term protection to industries which may never again regain competitiveness. The effect of such policies is to insulate broad sectors of Japanese industry from the full play of market forces, often for extended periods of time.

For industries threatened by import competition, trade liberalization is avoided completely or only minor concessons are given.

In high technology industries, research efforts are coordinated and undertaken jointly under Government guidance. Research results are protected and licenses may not be granted without prior Government approval.

In depressed industries, cartels are formed to coordinate capacity reduction in line with long-term Government demand/supply forecasts—forecasts which take virtually no account of imports. Incidentally, in the free world's second largest economy, one with a worldwide $34 billion surplus, there are some 500 legal cartels and 21 officially designated structurally depressed industries entitled to protection.

Whatever the instrument, the resuts are the same: Import market shares remain abnormally low.

Another broad category of trade problems results from the view in Japan that the Government has a role in protecting the consumer and that this requires intervention. This produces an often impenetrable maze of regulations which deters market entry, by Japanese and foreign firms alike. Telecommunications is a case in point: the bilateral telecommunications talks, which are still continuing, were prompted by the burdens which the regulatory system as originally proposed under the telecommunications business law, would have placed on foreign firms seeking to enter Japan.

Our telecommunications negotiations have been largely successful. The regulatory system has been trimmed significantly. Japanese standards have been reduced to a level close to those in the United States. Yet we encounter just such problems in other fields. It is a pervasive problem that results indirectly from often well-intentioned policies.

Structural barriers to market entry are even more removed from our traditional concept of tariffs and NTB's. Many of these are longstanding practices which were not intended to discriminate against foreign products. They often act equally as a deterrent to Japanese domestic firms seeking to expand into a sector dominated by a firmly established group of companies.

Some of the most difficult structural problems stem from established relationships. Within these groups, there is a natural inclination to source purchases from other members. Financial institutions have a strong interest in helping unprofitable members through difficult times. Entry into these closed circles is difficult for both foreign and domestic newcomers.

For industrial procurement, subcontractor relationships are also a barrier. Subcontractors frequently take up the slack for their large customers in a downturn. This loyalty is rewarded—and justified—by the certainty of a protected supplier position.

The distribution system may also be a problem for a foreign supplier. It is very difficult and expensive for foreign firms to set up their own network. Japanese distributors often have close personal ties or even equity and stock ties to their Japanese suppliers. Either choice—being a separate channel or go through established intermediaries—has its drawbacks.

Past Japanese "trade packages" have tended to focus on traditional trade barriers such as tariffs or limited, product-specific problems. Prime Minister Nakasone's strong public appeal on April 9 was a significant departure from this precedent. It emphasized the urgency of the problems caused by Japan's low propensity to import and the need for attitudinal and policy changes toward foreign products. The Prime Minister made it clear that continued Japanese access to foreign markets depends on more balanced trade, which in turn depends on increased Japanese imports. It is a simple but critical equation, which the Japanese people appear prepared to accept.

The April 9 announcement was followed up with an action program on July 30, which outlined a 3-year program to improve market access. Highlights of the action program are as follows:

Tariffs: The Japanese announced further tariff cuts on some 1,850 items.

Standards and Certification: The standards and certification procedures have been liberalized to include and expand the use of selfcertification based on manufacturers' self-generated data, allowing foreign participation in all standards drafting committee, and setting a time limit to process all certification cases.

Financial/Capital Markets Liberalization: The action program provides for the relaxation of interest rate ceilings on large denomination deposits by 1987 to be followed by liberalization of small denomination interest rates. Development of the Euroyen market will be expanded. Foreign activities in trust banking and membership in the Tokyo Stock Exchange will be expanded.

Government Procurement: The number of GOJ agencies participating will be increased. Single tendering practices will be minimized.

The meeting of Prime Minister Nakasone with President Reagan in January of this year resulted in an agreement of intensive sectoral negotiations aimed at liberalizing whole sectors of the Japanese economy. In the past, too often we would negotiate removal of one barrier to a product's entry, such as a tariff, only to find other barriers, such as standards or cartel behavior, blocked sales. Under a concept embraced by the Prime Minister, all barriers in a sector—traditional, structural, direct, indirect—are on the table. The objective is to open complete sectors, not just individual products, to competition.

The sectors are specifically those in which U.S. firms are proven international competitors, but our market shares in Japan are abnormally low. We have completed successfully the first phase of our telecommunications talks and are proceeding to phase 2. In the other sectors we are still engaged in discussions, but we have already made some progress.

In medical equipment, inroads have been achieved on the previous blanket refusal by the Japanese to accept foreign clinical test data. There are still several areas where duplicate testing—in Japan on Japanese patients—may be required, and undoubtedly, instances where this requirement will delay market entry by highly competitive U.S. products, but the first, most difficult steps have been taken.

In forest products, the Japanese have announced a 20-percent tariff cut for paper products to begin in 1986 and have agreed that similar cuts will be made for wood products in 1987. Discussions are continuing on standards and cartels which remain impediments to full entry by competitive U.S. manufacturers.

In electronics, we have already dealt with several major barriers. Japan has passed legislation to provide protection to semiconductor designs. Legislation to enhance copyright protection for software also has been passed. We are discussing the mutual elimination of tariffs on computer parts and some other tariff concessions on other electronics products. But we still have ahead of us serious problems of access for our semiconductor industry, and what we believe may be unfair Government computer procurement practices.

While we have made some progress in market access, we should not have unrealistic expectations. Even if all Japanese barriers to foreign sales and participation were removed, the United States would probably still run a deficit in our trade with Japan. But this deficit would be smaller and therefore inherently more manageable. More important, it is a number which would include a substantial vested interest of U.S. companies which are actively engaged in the Japanese market, companies whose Japanese sales are a significant element in their overall business structure. Few such companies exist. But they would be our best defense against protectionist measures which would limit Japanese imports and, in the process, limit our own trade potential.

This would be my presentation for the day. I would be happy to answer any questions.

Senator D'AMATO. Thank you very much for your testimony, Mr. Mu. Let me ask you, Prime Minister Nakasone's action program or so-called action program is to be phased in over 3 years. Now, you have been dealing for a period of time in an area in the Commerce Department dealing specifically with those problems that U.S. business people have in attempting to get fair access of their products abroad. You have enumerable cases where the inspection standards have been such as to not really be deemed to bring about safety, but have been used as a barrier. And those cases have been substantiated, is that not true?

Mr. MU. Yes.

Senator D'AMATO. Why should it take 3 years? And don't you see the kind of frustration, just being continued, that this attitude is nothing more than another putoff, that indeed many of these barriers, if not all of them, could be eliminated and should be eliminated forthwith?

Mr. MU. As we analyze that action program that is to be phased in over a period of 3 years, our assessment is quite consonant with yours, in that many of the things that with we are negotiating and many of the barriers we are talking about we would like to see implicated immediately. And there were supposedly, until April 9, six components to the action program. I gave cursory outline on the four of them.

Senator D'AMATO. Certainly.

Mr. MU. What has been particularly missing—let me try to address this on the tariff issues. I believe that everything that we have on the table has been adequately addressed on tariffs, on standards of certification. What is taking place is to be phased in, probably, but not 3 years. In our estimation, it will probably take a half year on a number of laws that need to be changed.

Senator D'AMATO. In other words, it is your view that this can be accomplished in 6 months?

Mr. MU. Yes, or less. And it is my belief that the Japanese intend to do this. If you read the details of that action program, it outlines 90 changes in regulations, ordinances, and changes in law. In the financial capital market liberalization, our assessment is that it probably will be phased over a period of 3 years, based on the May agreement of 1984.

They have simplified the regulations but they really have not increased the dollar value of that procurement scheme. Again, that will probably take more than the immediate timeframe to 6 months, so we are giving them the benefit of the doubt on the 3-year program.

I think on the other hand, the important part of the action program which was not addressed at all was—and what the Prime Minister announced on April 9—domestic demand, how to encourage domestic demand in Japan. You talk about a high savings rate. You talk about a structure of capital markets and industry in Japan that is geared toward exports.

Senator D'AMATO. Mr. Mu, let me give you an example, and I am not suggesting to you that if they were dealing in and of themselves that it might not be something we might not want to encourage, our own people to undertake higher savings, and so forth, but if those goods which are sold in Japan and sold to the United States are priced at a much higher level in Japan, they are obviously discouraging local consumption.

About 2 years ago, I happened to come into Tokyo for a brief stay. And one of the things that we looked for was the Sony Walkman when it was the hot item. I guess it will be 3 years this coming holiday or Christmas season—so 2½ years ago. The Sony Walkman sold at a considerably higher price in Tokyo than what you could buy it for here in the United States. But one of the things that shocked me to no end is when I walked into a fruit store and there was a melon that you might have today for lunch. And they will say what would you have. You will have the seasonal melon. And it might sell in this country at a high of $1.25. And this was 2½ years ago, and it was selling for $34.

Your associate looks with shock; $34. It was an ordinary melon size. It is the melon that you will have when it is in season generally for lunch. Now, if that is not the kind of thing that we see. That is glaring. They can't hide that. But we find that kind of situation branching. Our farmers, I am certain, could ship, deliver packages, and sell. Knowing the American creativity, we could set up road stands with melons and if we could sell them for $2 and $3 apiece, we would have people over there doing it and they would get wealthy. And all we would need is to have the Japanese Government say bring in melons. Bring them in. Why should their people pay $34. But when they were priced at such a level, who is going to buy a melon. No one. That is an example, and it certainly may be extreme, but it underscores, I think, the kind of thing that has been taking place, a much more sophisticated way in which they do it, but it is being done.

Now, as I said at the press conference, and you and I, I think, are on the same team, and I have great respect for Secretary Baldrige who is a dear friend, personal friend of mine, his family, he is a great American and I share with him his frustration in this area. I think we have reached the point and it is long overdue in which there will be legislative initiatives. And like the child who was shocked because the family finally comes down with some action, rather than lipservice, that is what is going to take place with many of our trading partners and Japan. They are going to, I think, call and say, "Why are you doing this?" Because they will have failed to take into consideration the litany of broken promises and of subterfuge that has been taking place.

I leave you with this, because I am not, I don't believe considered as a Senator who looks for protectionism. Those things that you hear me saying now will make it difficult for you to distinguish that, but I have run out of patience. And as you said, even in the application of the phase 3 of your program, you have explained the substance of that, and that much of that application takes place in the financial areas activity as opposed to the inspection area. My colleagues are going to be less tolerant than this Senator because I do not represent an extreme position in the U.S. Senate or in the Congress. If anything, I think mine would be more toward the patient side. And so I can tell you I have colleagues who say we have had it. I leave you with that thought.

I would also like to put to you one question. If you had it within your power to bring about changes in our trade relations, what is the most significant action that you think that you would recommend be undertaken? Now, I am making you president, prime minister and trade minister for both, legislatures of the both.

Mr. MU. I will speak first on the United States side as President of the United States. I would first appoint you as head of the trade committee of the United States Senate, send you over to Japan, and say please take care of the problem. But having said that, I have often, you know, been toying with this idea in my own mind. If you look at the laws, the trade laws of the United States, and you listen to the frustration of our United States industry and the Hill and you look at the over 90 pieces of legislation that are now in Congress and you say what is it that they are trying to say and what is it that Japan can do. And I get the general impression that we have in our trade legislation the wherewithal to deal with the problem without having any additional pieces of legislation.

I would selectively exercise some of the authority that are already on the books to second a very strong message that we are very serious about this trade problem. On the Japan side, as you look at the political end, the economic structure, much of it comes down to the ruling party, the Liberal Democratic Party. The consensus building and not really wanting to upset the small majority in Japan today and for all the reasons why you want the LDP to be there.

And what I am suggesting is the kind of positions that need to be made by the Prime Minister and the Diet and the bureaucrats in Japan, but not be in the short-term interest of maintaining power for the LDP. They are the strongest base. That $40 melon comes from that kind of action. The need to protect industries that are faced with a certain faction. That basically is what we need to do on both sides. A little bit of taking risk on the Japanese to say that the present veiling political economic system or the ruling system of the LDP needs to be addressed, you know, we need to prosper, and here on the United States side to exercise many of the legislations that we have in our laws today.

Senator D'AMATO. Now, when you say to exercise—I am going to put you on the spot—some of the laws in the book, would you be more specific?

Mr. MU. Well, there are any number of them. You use the phrase today of predatory pricing. I hear you loud and clear. If we could use that a lot more, predatory pricing investigations by the Justice Department is well within the relm of the advocations to initiate.

Senator D'AMATO. Do you believe they have been as vigorous as they should be in this area or could be?

Mr. MU. As they could be, no.

Senator D'AMATO. So you are saying, for example, to be specific, section 122 of the Tariff Act, if implemented, in order to address the problem of the balance of the trade, it would be a very effective tool as opposed to some of the legislative initiatives?

Mr. MU. That is correct. We also——

Senator D'AMATO. Let me suggest one other hinge. Don't you see a certain irony in the law as it presently exists that says that when an industry is substantially impaired that you have to first be impaired before you can bring this case before the ITC?

Mr. MU. That is section 201 that you are referring to.

Senator D'AMATO. That is what is taking place, because section 122 is not being used right so people have to wait until they can prove damage to the business, and isn't that antiquating? What I am suggesting, isn't that section antiquated? Why should you have to prove that you were substantially damaged? What are you saying?

Mr. MU. You put me on the spot and you have asked a very, very good question. I have often thought and I have often asked—to answer your question by answering another question—to say why is it that you are going after 122 where you have to prove damage when you can go after 301 and just prove unfair trade hikes.

Senator D'AMATO. The proof of that unfair trade practice becomes almost impossible though when you have to rely on record and sources in the foreign country?

Mr. MU. Proving damage is also equally bad. I think you will find it just as time consuming.

Senator D'AMATO. But too, again, very demanding. And we have some people in industry who might want to address those issues. They might be prepared in our third and fourth panel to bring that up. But again, what I am suggesting is that the barriers become so difficult for industry. And maybe it is important that it not just be simply used at all to stop bona fide competition. That is a delicate balance. But when I have sector after sector coming in and testifying to this and saying, "Senator, these proofs are impossible or so difficult as to make it costly and proceed you to take such a lengthy period of time that by the time we have our case heard we are so substantially impaired that relief almost becomes meaningless." You have run across cases and heard people express those views to you, haven't you?

Mr. MU. Many times.

Senator D'AMATO. And that is the frustration that people go through. Mr. Mu, I want to thank you for being as candid as you have been for coming here to share with us your view and that of the Commerce Department in this matter. You have shared your thoughts on this subject matter and we hope that the administration would respond.

I certainly see the Congress moving toward a response and one that will override Presidential veto. I really see that, because as I have spent this past month now at home, there hasn't been a day gone by, whether we have been relaxing in our little community where I live or out on the road going to hearings, if the issue of the imbalance of trade hasn't been raised by all of the segments of our society, from working people, corporate managers and leaders to others. It is a big concern to the American public who see their way of life being threatened and jeopardized. And I understand the nature of this when the public becomes as aroused as they are, sometimes there is a tendency for that. That would be, I think, unfortunate.

But I think that this situation cries out for action like the child who is then shocked when his parents finally implement the promised action to the child's neglect or failure to do what he or she should. I think the Japanese Government is going to be in for a rude awakening, because not withstanding their negotiations with this administration, Congress has had it. They are angry, I think rightfully so. And I would hope that there would be some very real movement in between the time now and when they go back after Labor Day. But thank you for your participation.

Our third panel is Mr. Jan Suwinski, vice president and deputy general manager of the Telecommunications Product Division of Corning Glass, Corning, NY. We are pleased and delighted to have you with us today. We are deeply appreciative of your participation.

STATEMENT OF JAN SUWINSKI, VICE PRESIDENT AND DEPUTY GENERAL MANAGER, TELECOMMUNICATIONS PRODUCT DIVISION, CORNING GLASS

Mr. Suwinski. Thank you, Senator. As you said, I am here today to talk about problems of selling in Japan. And let me give you a little background about the particular experience we have had.

Corning is a leading manufacturer of specialized glass and glass-ceramic products. Among these products are optical waveguide fibers—flexible, hair-thin strands of ultrapure glass through which light rays may be directed from one point to another. Corning's research efforts in optical fiber began in 1966, and by the early 1970's Corning had made pioneering inventions and had been granted the basic U.S. patents in the field of optical fiber. Foreign patents corresponding to these U.S. patents were subsequently obtained.

I am here today to describe Corning's experience in attempting to sell optical fiber to Japan. Access to the market for optical fiber in Japan has been the most difficult of any major country in the world. It is our opinion that primary reason we have been prevented from selling to Japan has been that the Japanese have targeted fiber optics as one of the key technologies—of similar importance to computers, satellites, and advanced semiconductors—for them to develop domestically as they make the transition from consumer electronics to the more advanced information technologies, including telecommunications by optical fiber. We attended an optical fiber conference in Tokyo the summer of 1977 when an official of MITI [Ministry of International Trade and Industry] outlined their vision for the future and the key role that fiber optics would play in making Japan a world leader of the Information Age in the 1990's.

As a targeted industry, the Japanese have successfully kept United States producers out of their fiber optic market while they worked to reach technical parity, with NTT providing Japanese optical fiber manufacturers subsidized R&D, virtually guaranteed procurement and procurement prices much higher than world prices. The Japanese Diet passed legislation in 1978 exempting Japanese manufacturers from antitrust concerns so that they could collaborate in the R&D of optical fiber manufacturing. NTT limited the development of fiber optic cable to three cable manufacturers who joined with NTT in joint R&D activities which I will explain further in just a moment. These companies have enjoyed a protected market for 10 years. We are concerned that the next phase will be the characteristic export drive featuring high volume Japanese sales at prices lower than in the Japanese market. I will briefly discuss Corning's experience in this area.

In 1975 NTT [Nippon Telephone & Telegraph Corp.] designated optical communications as a priority area for its developmental efforts. To do so, it engaged in a series of joint R&D projects with the leading Japanese fiber optics producers for the development of fiber optics products and processes. For optical fiber and cable, it limited the joint R&D to the three major copper cable manufacturers—Sumitomo, Furukawa, and Fujikura. The joint R&D was done with one of NTT's laboratories. At the same time, NTT provided these producers with a virtually guaranteed market for their product when it was developed. From 1977 through 1984, NTT purchased all of its fiber optic cable requirements from these three companies. As stated in the August 8, 1981, edition of the Japan Economic Journal:

> Sumitomo Electric Industries, Ltd., Furukawa Electric Company, and Fujikura Cable Works Ltd. are now running ahead of others in the strength of techniques that they have accumulated through a joint research and development project with the governmental Nippon Telephone and Telegraph Corp. [NTT]. NTT will be by far the largest customer of optical fibers. The present leading position of the Big 3 owes largely to the joint R&D project with NTT.

More recently—and more pointedly—the February 1984 issue of the Japanese magazine Oriental Economist stated—page 7—that in Japan "it would appear difficult for foreign companies to enter into basic optical fiber sales because this is one of—Japan's—golden egg technologies." This has certainly been our experience. In 1976, we asked Furukawa Electric if it would purchase Corning's optical fibers which they would then cable and sell to NTT. We actually sold a few hundred kilometers to them in the mid-1970's. However, Furukawa told us that they needed to cooperate with NTT on the development of Japanese technology and that they did not intend to purchase in the future. When we asked if Corning could participate in a joint venture with Furukawa, Corning was told that "NTT would not allow it." We raised the question of a joint venture several times from 1977 through 1983. Each time we were told by Furukawa that it would be possible and NTT intended to purchase only from Japanese companies and that including Corning in a fiber optic venture would result in no purchases from NTT.

Mr. Masao Funishashi, president of Furukawa, in an interview with Nihon Keizai Shimbun on May 22, 1982, indicated that Corning's plan for local production of optical is apparently its long-cherished desire. Furukawa's motivation of concluding licensing agreement with Corning was that, at the time of the agreement, the optical fiber development race had just started, and Corning's capability was so overwhelming that there was a danger of Corning's dominance—of the Japanese market—if Corning was able to enter the market. Therefore, it was decided to counter Corning's plan. President Masao Funishashi explicitly said, "I have no intention of producing optical fiber jointly with Corning in Japan." This is because Japanese optical fiber technology has reached the top level in the world through the joint research and development system established between NTT and the three companies, Furukawa, Sumitomo, and Fujikura, so that Furukawa feels they should not independently share the results through a joint venture with Corning.

Since NTT is a purchaser of fiber optic cable and Corning is a supplier of only the optical fiber, we require a cable company to purchase our fiber. Now in 1985, the key Japanese cablers all manufacture their own and have told us they don't need to purchase fiber.

NTT procurement was supposedly opened for non-Japanese suppliers in December 1980, as part of a U.S.-NTT agreement. On May 20, 1982, James Houghton, Corning's chief executive officer, and David Duke, Sr., vice president and general manager, telecommunications products division, met with Mr. Kitihara, the vice president of NTT, and expressed our interest in becoming a supplier to NTT. We asked for the technical specifications so that we might develop a product to meet their needs. Mr. Kitihara responded that NTT now had an open door policy and "wanted the supply of the best product in the world at the lowest price." Our discussions were reported in the Nikkei Journal on May 21, 1982. It was not until February 1983 that NTT provided Corning with any procurement specifications. However, later that year NTT informed Corning that these were only target specifications and that detailed specifications were proprietary to NTT and its suppliers.

In August 1983, in a public notice of telecommunications equipment procurement, NTT listed 600 km of graded index optical fiber cable and 3,200 km of single mode optical fiber cable. The single-mode fiber cable is the newest technology and 80 to 90 percent of the installations in the world are now with single-mode fiber. This notice was very misleading, since this was for procurement of products which were open to bids by the United States and other companies. It is very difficult to quote on a product if you don't know the product specification! We met again with NTT and requested the specifications for both the single-mode and graded index—multimode—fiber. However, we received only the specifications for the older multimode fiber type. It normally requires 1, 1½ to 2 years to develop a specific optical fiber to certain specifications, have it cabled and do the required testing. Since by that time the NTT requirements for multimode fiber cable would undoubtedly be quite small, we repeated our earlier requests to NTT for the predominant single-mode specifications. Corning was finally told in December 1983 that these single-mode specifications were not yet available since it was still a developmental product. And yet at this time, NTT was purchasing approximately $85 million of this single-mode fiber cable—hardly what would normally be called developmental. Corning finally received the single-mode specifications in February 1984.

Thus, it took Corning several years simply to secure the basic information needed to put Corning in a position to design a product to try to sell to NTT. It is interesting to note that the major demand for single-mode fiber cable was the backbone trunk from the north to the south of Japan. This backbone trunk was completed in 1984. Since it normally takes over 12 months to develop a product and another year of testing, our inability to obtain the specifications precluded us from even bidding on this major project. However, even if we had been able to obtain the specifications, and after making a significant developmental effort, there is a question in our mind—based on past practice—if NTT would have ever seriously considered the resulting Corning product. And we would not have had the advantage of the price subsidy which NTT has paid to its domestic suppliers over the past 5 or 6 years during the initial stages of optical fiber development.

The NTT-U.S. agreement clearly states that purchases by NTT are to be made on the basis of performance specifications and not design specifications. However, so far the NTT engineering bureau has evaluated only fiber optic cables which meet their design specifications, even if products which do not meet those particular specifications offer superior performance at a much lower price. These NTT design specifications were developed by NTT and their three domestic cable suppliers are unlike those anywhere else in the world. The process to manufacture this specific cable is slower and more expensive than the processes used to manufacture cable in the United States and Europe.

Ironically, NTT has indicated that over the next few years, it will phase out its present design in favor of faster, lower cost cables. Thus, even if Corning were to decide to invest the time and resources needed to develop a product to meet current NTT design specifications, it may well be that within a few years the original design specifications would no longer have any commercial relevance.

NTT has purchased fiber optic cables at prices much higher than the world price. From NTT public documents which state what they purchase and the value paid, we have calculated that in 1983 NTT paid its Japanese suppliers approximately $2.40 per fiber meter in cabled form. The 1983 cable price in the United States for a comparable product ranged from 50 to 80 cents per fiber meter; or about ⅓ to ¼ the prices paid by NTT. These prices were verified by market consultants who studied the Japanese market and by direct discussions we have had with NTT. The Japanese Optoelectric Industry Technology and Development Association data also confirmed the prices and volumes of Japanese sales. Given the total volume procured by NTT in 1983—45,600 kilometers of fiber—this price differential between the NTT price and the market price resulted in a de facto subsidy to NTT's fiber cable suppliers to modernize equipment, do extensive R&D, and build capacity for projected export sales, while simultaneously competing at much lower prices around the world.

Japanese producers of optical fiber have established production capacity far in excess of what is needed to supply the Japanese market—that is, they are clearly planning a major export push. For example, for 1983 and 1984 Corning estimated that the entire Japanese fiber market was about 55,000 to 60,000 kilometers. In

1985, this is expected to drop below 50,000 kilometers with the completion of the backbone trunk.

The actual production capacity of optical fibers in Japan is difficult to measure. This is due to the dependence of production capacity on the type of fiber manufactured and the selection rate of higher performance fiber. Japanese fiber manufacturers state very large capacities in the press. Sumitomo publicly announced that their capacity was 20,000 kilometers per month of 240,000 per year. Furukawa and Fujikura have disclosed their capacities at between 20,000 and 10,000 per month. Hitachi Cable, Ltd., Showa Electric Wire & Cable Co., and Dainichi Nippon Cable, Ltd., each have some manufacturing capacity to make fiber optic cable. If these were actual production figures, the capacity would exceed 600,000 kilometers each year. I'm sure that these numbers are highly overstated, but it is still far greater than the demand of 50,000 to 60,000 kilometers required in Japan.

On several occasions during the past few years the above issues have been raised with the Japanese during meetings of the government-to-government High Technology Work Group. Both the Office of the Special Trade Representative and Department of Commerce represent the United States on this work group, and have been diligent in discussing these concerns during sessions of the work group. However, so far the Japanese have not felt a need to change their behavior.

On April 18, 1985, the International Trade Commission upheld the decision of the administrative law judge in Corning's section 337—patent infringement—complaint before the ITC alleging unfair practices in the importation and sale of certain optical fiber by Sumitomo. The decision provided that although the applicable Corning patents were being infringed by Sumitomo fiber, there was no section 337 violation since the ITC determined that "Sumitomo's imports did not have the effect or tendency to destroy or substantially injure" the relevant domestic industries. Thus, Corning finds itself in the unfortunate position of having its patents infringed by Sumitomo imported optical fiber and yet being denied a corresponding remedy by the ITC. Corning is now pursuing a patent infringement action against Sumitomo in Federal district court, but this is a time-consuming procedure.

We find it ironic that Japan can target the United States fiber optic industry, protect its home market for 10 years while paying prices substantially above world prices and then export to the wide open United States market. Our laws and procedures only allow for remedies after the damage to an industry has been done or if the tendency to injury can be clearly shown. This emphasizes the need for a Federal statutory remedy against the type of Japanese actions described above, which is contained in the targeting provisions of the recently introduced Trade Law Modernization Act—H.R. 1950.

If I can add any further information to what I have said today, I would, of course, be happy to do so. Thank you.

I would briefly discuss our experiences, touching on each of these areas.

Let me turn now to procurement policies and pricing.

Senator D'AMATO. Do you know what I find that I can't believe is that situation is not only unique to Corning. I know it is not because I have had people in various industries come to me and say, "Senator, when we have and can bring about better products at cheaper prices, we are barred."

And you then go and talk about the relevance of not only us looking at a $70 million contract, but they are paying so much more than using the resources of their developing this and that to get a better product and penetrate our markets. But it seems to me, John, that this is a conspiracy of silence.

This is an outrageous shocking example of that which many small people have been talking about, that have really failed to come forward and document. You have the ability to continue to pursue and to persist and then to document the case of total Japanese Government in industrial stonewall of this situation. But many of our smaller manufacturers and others don't have inclination, just don't have the resources to do it as you have in this case.

And so the question is how many other examples of these kinds of activities exist. I imagine it is rather difficult to say that we wouldn't have substantially more than $10,000 for additional trade with the balance accruing in our favor if these kind of practices were dealt with and it really cries out for action.

The point I was bringing up with Mr. Mu before, even where we find that the Japanese are violating the law, and in this case, infringing on your patents, in addition, we first have to find out that your business is destroyed or substantially impaired before we do so. That really cries out for recollection. That is not as it should be and I would think that section of the law should be addressed. And that we shouldn't have to say well let's look at the plans of trade.

Mr. SUWINSKI. If I can address any further questions to what I have said today, I would be happy to do so. Thank you very much, Senator.

Senator D'AMATO. I am deeply appreciative of your telling, because I think it has put forth the case in a very cogent manner, an actual example as to what took place over a period of years, how the Japanese subsidized their industry, kept us from selling our products when they could have been sold at 75 percent less than what they were purchasing, how they have developed this enormous capacity now and that will be used to penetrate our markets, and I dare say that they will be selling at prices below Corning.

And then we will hear someone say the consumer is benefiting. Why should he pay higher prices. And then, of course, after they are devoid of the industry, and Corning can no longer compete and lays off hundreds of workers. So now we have thousands of workers laid off. We have lost the productive capacity. And as we see this kind of thing taking place in industry after industry, I suggest that it is an outrage and it is rather superficial for people to cooperate to say you know we have to buy at the lowest prices. After all, we want to be fair to the American consumer. That is not giving the total full picture of how this has come about.

So I am appreciative that you have helped put this in focus and we will probably ask you if you could not come down to Washington and testify before a full panel and let my colleagues know this information.

Let me ask you one thing. Supposing Prime Minister Nakasone's announced action program, which is designed to improve access to Japanese markets, do you think that program actually is going to come about and help companies like Corning, or do you see it is as more windowdressing, given the fact that you have had these experiences in the past?

Mr. SUWINSKI. Well, that is a difficult question to answer. As you said in the press conference, when you give the example of your children saying we are going to walk the dog and take out the garbage, certainly what he says appears to be moving in the right direction. It remains to be seen what happens. I think as Mr. Mu said, action is being taken on some items, but in other areas, there doesn't seem to be concrete action. So, that is a very general answer, but I think it remains to be seen exactly what happens.

Senator D'AMATO. One other question. If a Japanese company was willing to buy your product, specifically the fiber optics, are there other trade barriers, tariffs or customs procedures, that would hinder Corning Glass from making this sale?

Mr. SUWINSKI. Well, the one I would worry about was the one I talked about, and that is the question of specifications. Although, if a company were to buy our product, they would have to feel comfortable that they could meet the NTT specifications, so I guess that really wouldn't be an issue. If one of those companies were to buy our product, I think we would have no trouble penetrating the market.

Senator D'AMATO. Thank you very much. I am very appreciative of your testimony here today. I am sure my other colleagues and committee will find it quite useful in their deliberations.

Mr. SUWINSKI. Thank you, Senator.

Senator D'AMATO. Our fourth panel, Mr. Lewis Koppel, director of strategy development of Sohio Engineered Materials from Niagara, NY, Jonathan Hinton, vice president and general manager, and R. Lawrence Sahr, senior patent attorney of Sohio. Mr. Hinton, thank you very much. I am deeply appreciative of your being here today. Please proceed, Mr. Hinton.

STATEMENT OF JONATHAN HINTON, VICE PRESIDENT-GENERAL MANAGER, STRUCTURAL CERAMICS DIVISION, SOHIO ENGINEERED MATERIALS CO., ACCOMPANIED BY LEWIS KOPPEL, DIRECTOR, STRATEGY DEVELOPMENT; AND R. LAWRENCE SAHR, SENIOR PATENT ATTORNEY

Mr. HINTON. My name is Jonathan Hinton. I am vice president and general manager, structural ceramics division, Sohio Engineered Materials Co. We are an operating division of the Standard Oil Co. of Ohio. With me this afternoon are Lewis Koppel, who serves as director, strategy development, Sohio Engineered Materials Co., and R. Lawrence Sahr, senior patent attorney of Sohio.

Sohio Engineered Materials Co. is headquartered in Niagara Falls, NY, and employs nearly 1,200 people in New York State. Our most exciting new industrial product is a patented advanced ceramic material which is extremely hard, strong, corrosion, abrasion, and heat resistant. It has many applications for machinery components in severe environments, where even exotic metal alloys cannot do the job.

We appreciate this opportunity to appear before you today. Our company has had extensive experience with direct investments in Japan. We have been partners with various Japanese firms going back as far as the 1950's. Our experience there has taught us that there are a great many areas in which Japanese practices make it difficult for United States companies to succeed. Today, I would like to focus on one critical area of difficulty; namely, patents.

As generally covered by Mr. Mu's and Mr. Suwinski's testimony, commerce in Japan is quite unique. Personal and corporate relationships are so strong that a Japanese firm will purchase from another Japanese firm rather than buy a less expensive equivalent product from an American firm. In addition, Japanese firms have a proven track record of copying the inventions of others. The Japannese patent system should be one of the tools which an American firm can use to minimize the inherent disadvantage we have in attempting to penetrate the complex Japanese market. Unfortunately, it isn't.

Both the United States and Japanese Constitutions support, in similar language, the rights of inventors to patents. Society strikes a bargain. In exchange for inventors' placing their inventions into the public domain to advance the state of technology, the Government grants the inventor a monopoly for a limited time. This gives society the benefit of advanced technology upon which even newer technology can be developed, while providing the opportunity for the inventors to enjoy the financial rewards of their work.

This bargain works in the United States—for both U.S. and foreign inventors—because the U.S. patent system is set up in a way that protects the rights of all patentees equally. In Japan, this simply is not so. The practices of the Japanese patent system, industry, and society operate to keep foreign inventors from participating equally with Japanese firms in the bargain.

The beginning of the patent process in Japan is to file an application in the Japanese Patent Office. From that point, it generally takes 5 to 7 years for the application to be declared allowable, compared to 2 to 3 years in the United States. Unlike United States patent applications, Japanese patent applications are published after 18 months, allowing competitors several years to study and copy new inventions.

The difficulties experienced by United States businesses in this initial state of filing and prosecution of Japanese patent applications have been well documented. Both the American Chamber of Commerce in Japan and the United States Embassy, as well as several professional patent associations, have lodged multiple protests with the Japanese regarding these problems. The response has generally been limited to actions designed to publicly placate, without resulting in any significant changes. To use your earlier analogy, Senator, "the undisciplined child has apologized—but still neither walked the dog or taken out the garbage."

But what happens next? Once a patent application is found to be allowable, after this 5 to 7 year period, it is republished for opposition. Japanese opposers, who can be anyone from a corporation to a person with no economic interest, have 3 months from the date of publication to file their opposition arguing why the patent application should not become a granted patent. We have had extensive experience with this opposition process, which we would like to share with you.

To begin with, there are several unfair, but ultimately surmountable, procedures in the opposition process. The opposition documents are not required to be served by the opposers on the applicant. They are merely filed in the patent office which, in turn, immediately sends those opposition documents, plus patent application files, into what is termed "processing." The bureaucratic processing can take anywhere from 1 to 6 months depending upon the number of oppositions filed and the overall workload of the patent office. However, during this period, all of these opposition documents, which are, in the words of the Japanese law, "public records available to the public" are not in fact available to the public or the applicant. The applicant does not know the basis for any of the oppositions. He does not even know how many opposers there are or their names.

When the processing is completed, the opposition documents are formally served on the applicant's patent attorney. From that date, the applicant has 3 months—including the time needed to translation—to reply to all of the oppositions.

It has been our experience, as well as that of other U.S. firms, that the arguments of the opposition documents are very well thought through and polished. We have been told by Japanese patent attorneys that this is no accident: The opposers have had access to the patent office application files since the original publication of the application, in most cases from 5 to 7 years before publication for opposition. Thus, the opposers have had many years to develop their arguments and polish them.

If the patent application technology covers a basic invention, or is considered significant to an important Japanese market, or falls into an area of technology targeted by MITI (the Japanese Ministry of International Trade and Industry)—such as advanced ceramics—there will be a surprisingly large number of oppositions. In most of these cases there will be more than 10 oppositions and in a few recent cases, in excess of 100—all of which must be effectively answered in 3 months. Each opposition brief will contain several reasons why the opposer believes the patent should not be issued. If the applicant fails adequately to answer only one of these arguments, in only one of these briefs—he loses his patent.

Some of the arguments in some of the briefs will be identical—not merely similar, but exactly and literally identical. The applicant will notice, if there are many opposers, that certain phraseology is repeated in several of the opposition briefs, each of which has supposedly been developed by a separate and independent opposer. The arguments used and the order of their arrangement will also be repeated in several opposition briefs. In addition, certain support documents are used by all or a majority of the opposers, and those support documents will bear duplicated telltale markings, such as photocopy machine imperfections, marginal notes and underlining, indicating that each was copied from a single master copy. It appears that all of the opposers have met to collectively define the issue, distribute the support documents, develop the arguments and divide those issues and arguments among themselves, all by way of mutual agreement. In fact, this collusion is exactly what has happened, as has been verified privately by many Japanese patent attorneys who have attended such meetings. Yet, those same attorneys do not report engaging in such meetings where the applicant is Japanese.

After the applicant files his reply briefs, each opposer may request rebuttal. The Patent Office frequently allows opposers to file rebuttal where the applicant is foreign, especially if there are a large number of opposers or if the arguments and issues are complex. The Patent Office usually takes 1 or 2 years to decide to allow the rebuttals. The applicant, on the other hand, has only 40 days to respond to the rebuttal after another bout of bureaucratic "processing" in the Patent Office, as mentioned before. Beyond this, the Patent Office can then decide to allow yet another round of opposer rebuttals, necessitating further responses by the applicant. Finally, if the applicant is successful in persuading the Patent Office that he still has a patentable invention in spite of the oppositions, the Patent Office will issue a decision to grant a patent.

Having survived this ordeal, however, the U.S. firm still does not have an enforceable patent. There are problems that follow the opposition process which go beyond being merely "unfair." Once the patent is actually granted, it can be subjected to a revocation proceeding. Statistics show that a very high percentage of opposed and appealed patent applications, which finally result in granted patents, are subjected to revocation proceedings. Anyone can file a revocation proceeding. A revocation proceeding can be filed even though no oppositions were filed. And, finally, there is no time limitation for the filing of a revocation proceeding; it can even be used as a defense to an infringement suit. The revocation proceeding starts in the Patent Office and for all intents and purposes, follows the same procedure, and takes the same amount of time as an opposition proceeding. The revocation proceeding is also subject to a two-tiered appellate procedure, taking about 2 years for each appeal. The net result is a patent which may never reach a enforcement stage.

The terms of a Japanese patent cannot extend for more than 20 years from the date of original filing of the application. The initial application, you will recall, takes between 5 and 7 years. This leaves a potential useful life of between 13 to 15 years, provided no oppositions are filed. If oppositions are filed, as much as 5 more years can be cut from the life of that patent, leaving a potential life of only from 8 to 10 years. An additional 9 years can be cut from the life of the granted patent through revocation proceedings. This means that the possible 20-year patent term can expire before a U.S. applicant has an enforceable Japanese patent.

Thus, the Japanese Government has established a system which can be manipulated to ensure that an enforceable patent will never be issued to a U.S. firm until the patent period has expired. U.S. firms have, of course, complained to the Japanese Government. The response of the Japanese Patent Office is that an applicant can assert his patent against an infringer by filing suit as of the date that the patent application is published for opposition. A review of those patent infringement law suits filed in the Tokyo District

Court, from 1975 to 1985, where the suit was filed under an opposed patent application and/or a granted patent which was subjected to a revocation proceeding, has shown, in every single instance, that the litigation was stayed until all of the oppositions, revocation proceeding and their respective appeals were completely and finally exhausted. Not a single instance was found where a prohibitive order was issued by the Tokyo District Court, to prevent the infringing practice from continuing during the oppositions, revocation proceedings and their respective appeals. Thus the right to file a patent infringement action, based on a patent application pubished for opposition, seems to be a hollow right.

The net result of these provisions of the Japanese patent system is that the Japanese are provided with all of the tools necessary to deny the foreign applicant any effective patent rights in Japan. The use of these tools, in combination with the collusion among interested domestic competitors, can and in many cases, does effectively destroy the exclusive rights that a United States inventor otherwise should have under Japanese patent law, and which a Japanese inventor does not in the United States.

Without a level playing field for patent rights, Japanese industry can continue to blatantly copy the newest U.S. products and, through industry collusion, keep the United States patent holder from selling any of this product in Japan. This costs U.S. workers more than just production jobs. Profits from sales to the large Japanese market for advanced ceramics, for example, could be a major source of funding for our R&D efforts in Niagara Falls.

The availability of Japanese-made copies not only prevents United States firms from penetrating the Japanese market, but the copies also are shipped to the United States where they compete directly with the United States patent holder's products. In cases where the Japanese export products infringing United States product patents, United States law permits the United States patent holder to sue the Japanese firm and force it to stop exporting. However, if the Japanese firm exports products which infringe only United States process patents, then United States law does not authorize the United States process patent holder to force the Japanese firm to stop.

Unlike United States law, Japanese patent law fully protects Japanese process patent holders. Section 104 of the Japanese Patent Law reads, in essence:

> In the case of a patent for an invention of a process of manufacturing a product, . . . any identical product shall be presumed to have been manufactured by that process.

Similar protection must be provided to United States process patent holders. We urge your support for corrective legislation in the Senate this Congress.

We are currently engaged in litigation with a major Japanese ceramics company, Kyocera, to stop them from selling infringing products in the United States. Kyocera's director of research and development has publicly admitted in a newspaper interview that Kyocera has infringed our United States patents. But, such litigation is both time consuming (5 years, so far) and costly, robbing precious resources for our Niagara Falls-based activities. Counterparts to these United States patents are still pending in Japan because they are mired in opposition proceedings. And all the while, Japanese customers which should be ours continue to buy infringing Japanese products, with blatant disregard for our patents. These lost revenues will never be recaptured.

In conclusion, Mr. Chairman, we believe we have amply demonstrated that the Japanese patent system provides a significant nontariff barrier to the penetration of the Japanese high-technology market by United States firms.

We agree with you, Senator D'Amato; free trade must be fair trade—and demanding that the Japanese correct their patent system is one important step forward. We appreciate your interest and attention, and would be pleased to answer any questions you may have regarding this testimony.

Senator D'AMATO. Mr. Mu, come on up here a second. I want to find out something. This is not beat on Mr. Mu day. I want you to understand that, but I think it is important to stop at this point in time. You have heard this testimony of Mr. Hinton. Have you ever heard complaints about this in the past?

Mr. MU. Yes; I have.

Senator D'AMATO. Let me ask you if Prime Minister Nakasone has talked about relief. What did he do in this respect or has he done anything in relief to this kind of abuse? Has that been addressed?

Mr. MU. That has not been addressed in his action book. I might address that——

Senator D'AMATO. I want to tell you something. This is a whole new thing that comes to this Senator's attention. This is outrageous. This is a shame. And it is really robbery. It is theft. It is larceny. There is no other name. I am not addressing a particular incident, but it would appear and you are kind of verifying it, have you heard of these kinds of incidents?

Mr. MU. I probably have documented in my files a dozen, as much as 2 dozen similar complaints could be made based on his testimony from Corning.

Senator D'AMATO. We are going to have more hearings on this. We are going to start up with the theft of American patents and products, and that is how I am going to open the next hearing. We are going to let some people hear about this. This is shocking.

And I have to tell you, you know, this is the first time—I have heard business people come in and just say to me, Senator, or friends of mine, "Al, you just cannot believe the kinds of things that go on." When you hear this kind of suggestion, it is one that gets the blood boiling. There is no reason for this kind of thing. And for our Government to continue it.

If that is what our international relationships are going to be built upon, that we have to endure and have our citizenry and our companies endure this kind of action, then I would suggest that it is not really worth too much. It is a relationship built upon political expediency. When it comes the time, we will find out and we may be left high and dry. We will use that economic and political power not in our interest and adverse to our interest. And I would rather find out now.

This is just absolutely shocking. It is scandulous. Now, let me ask you, are you going to go on and tell me now that they take your patent?

Mr. HINTON. We haven't gotten to the good stuff yet.

Senator D'AMATO. Go ahead, please continue. I just called you forth to verify whether or not you have been made aware of such cases. And as you have indicated, you are aware of at least in your files a dozen of these kinds of situations.

Mr. HINTON. We left off at a spot where we have all these options have been filed.

Senator D'AMATO. There is no way you can practically win all of these. And that court is not going to come down for any matter. What if you answered every single one of them?

Mr. HINTON. It is extremely difficult.

Senator D'AMATO. You don't file any more patents there, do you?

Mr. HINTON. Oh, yes.

Senator D'AMATO. You still continue?

Mr. HINTON. Keep trying.

Senator D'AMATO. Why would you continue to batter your head into a wall and have your patents robbed?

Mr. HINTON. Well, quite honestly, because we can't do business in Japan because of all the infringing products unless we get our patents—if we can get those same patent coverage in Japan.

Senator D'AMATO. You mean because they are robbing them anyway, you go there to try to deal with the process from infringing on your patents?

Mr. HINTON. Three—at least three of four companies.

Senator D'AMATO. Then we get companies that say you haven't suffered these terrible economic losses, pursuant to a particular section of the code, so even though we find that they have infringed on your patents, they are not going to do anything about it, is that correct?

Mr. HINTON. That's correct. One of those infringers is so blatant to ship products made under our patents back to the United States. And we currently have litigation with them, as you heard from the Corning-Sumitomo issue.

Senator D'AMATO. Well, Mr. Mu, what about that? What do we do? Do you need additional legislative relief?

Mr. MU. No; let me ask a question, are you filing under 337?

Mr. HINTON. No, we have not.

Mr. MU. The case at Corning which is presented to you, I believe, the patent was pending in Japan going through similar process that he was talking about. And the products coming to Japan which they claim the patents were infringed upon and the ITC—do we need stronger legislation. My sense of it is probably yes.

Mr. HINTON. Particularly in the area of process patents.

Senator D'AMATO. Are you sugesting a legislative proposal? Do you have one? And if you haven't, would you suggest one to deal with that problem?

Mr. HINTON. Yes; we can do that.

Senator D'AMATO. Do you have a counsel here? He probably can draft it up.

Mr. HINTON. We would be delighted to get that to you. Thank you.

Senator D'AMATO. You made such a presentation that it cries out for some action.

This is terrible. It is really hyprocrisy and a scam of any kind of patent protection. And I think we ought to give them a little reciprocity. We ought to file these and give American industry the opportunity to do the same thing. Teach them a little lesson. Of course, then they will have all the consumer groups racing around "Oh, now you are going to cost the consumers more money." But I wonder where it is and how it is that we can allow the American businessmen to be so discriminated against and have on one calling for a turnabout in fair play. Incredible.

I am delighted to have you here, but I want you to come to Washington. I want to get my colleagues and have them listen.

Mr. HINTON. We would be delighted to do this.

Senator D'AMATO. Have you ever testified in Washington at a trade hearing in regard to this?

Mr. HINTON. No.

Senator D'AMATO. The sad thing is how many other companies through this country are enduring and have seen the same thing. How many have given up. How many companies don't have the wherewithal to go into court to bring an infringement action.

Mr. HINTON. It is very costly.

Senator D'AMATO. I am not going to pose any questions to you because I did as you went along ask a series. Because your testimony, I think is such demonstrative, it is indicated that action should be brought about, and in the case, maybe even retaliatory legislation so that they drop this fiasco and sham of a patent law that is used in such a way as to derpive us of protection of our own inventions, our own creations.

I understand now and people tell me about how their ideas are copied, maybe a little improvement made to it, how it is sent back here and competes with us. That doesn't take great genius to do that. It certainly demonstrates an ample need for legislation to deal with that kind of problem. I am going to speak to the Commerce Committee. I am going to speak with Secretary Baldrige and ask him to look at this and see if we can't begin to develop some initiatives in this area.

I would be darned if we should have products that are being made abroad with American patents that have been infringed on by Japanese industry. I have never heard of such a sad system. And it certainly should not be continued. I think if the Members of the Congress had had the opportunity to hear this illustration of what takes place—and I only hope I have the ability to attempt to transmit the information to them—that there would be a movement immediately to deal with that obvious injustice. It is an injustice.

Let me thank you for your testimony. I did not think that this hearing would produce nearly this kind of revelation. I ask you if you would not have your people submit to us proposals dealing in the area of the patent infringements as to how we could seek better regulation?

Mr. HINTON. We would be happy to support and submit to your office all the background for this and our thoughts as far as what might be an equitable solution.

Mr. MU. I do encourage you to hold as many hearings on this subject as possible. We have obviously tried to deal with this issue in the past.

Senator D'AMATO. I am grateful for your participation, Mr. Mu, for your insight, as well. This subcommittee hearing stands adjourned. The staff has my thanks. And all those who have been here to testify today, my deep appreciation.

[Whereupon, the subcommittee adjourned, subject to the call of the Chair.]

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